

PHYSIOLOGY AND THERAPY ON THE FOUNDATIONS OF SPIRITUAL SCIENCE

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Hygiene — a Social Problem

IT is never doubted that the Social Question is one of the problems that is looming largest in the thought of the present age. Wherever there is any understanding at all of the events that occur in the course of the evolution of human history, of the sinister or incipiently fruitful impulses for the future — all these matters are included under the “Social Question.” It must, however, be said that the point of view from which these social problems are regarded and the way in which they are handled at the present time, suffers from the basic evil inherent in so many spheres of our mental and moral life — I mean the intellectualism obtaining in our age. For these problems are indeed so often limited by the angle of intellectualistic study. No matter whether the social question is approached from the “left” or “right” wing, the purely intellectualistic nature of the different conceptions is revealed in the fact that people start from certain theories: this or that ought to be done, this or that ought to be stamped out.

Little account is taken of the *human being* himself. Human beings are treated just as if there were one generality — “Man.” No attention is paid to the personal and distinctive qualities of individual human beings. And this is why our whole conception of the social question has become abstract, so seldom grasping the social feelings and sentiments playing between man and man. This lack of social observation becomes most clearly evident when we turn to a special

domain like that of hygiene — a domain which possibly is more prone than many others to be the subject of sociological study, inasmuch as it is a public affair, concerning not the individual human being alone but the whole of society.

True, there is no lack of advice on the subject of hygiene, no lack of treatises and writings on the subject of the care of health as a public concern. Yet one cannot help asking: What is the real attitude of social life to all these injunctions and regulations about hygiene? And the answer is, that when the conclusions reached by medical or physiological science on this matter are made public either by the written or by the spoken word, it is the *trust* reposed by man in a “profession,” the inner nature of which he is not able to put to the test, which is supposed to be the basis upon which such precepts may be accepted. Wide circles of people whose concern it is — as indeed it is the concern of everyone — accept simply on authority all that finds its way on the subject of hygiene, from medical laboratories to the outside world. But those who are convinced that in the course of modern history during the last four centuries a longing has arisen among mankind for a democratic ordering of affairs, find themselves faced with the entirely *undemocratic* nature of this “trust in authority” that is demanded in the sphere of hygiene. In short, this undemocratic attitude confronts the longing for democracy which has reached its height to-day, although frequently in a highly contradictory form.

I know that what I have just said may seem paradoxical, for people do not place the unquestioning acceptance of everything related to the care of health side by side with the democratic demand that affairs of public interest concerning every mature man and woman shall be arbitrated by the people in general, either directly or indirectly through their representatives. True, it may be impossible to apply essentially democratic principles in the sphere of public hygiene, because these things depend on the judgment of specialists. But on the other hand one cannot help asking: ought not an attempt be made to apply such democratic principles as are possible in modern conditions to a sphere like that of public health which so intimately concerns both the individual and the community?

A great deal is said to-day about the necessity for proper air, light, nourishment, sanitation, and so forth, but the regulations laid down in regard to these things cannot, as a rule, be tested by those to whom they apply. Now please do not misunderstand me. I do not want to be accused in this lecture of taking any particular side. I have no desire to uphold ancient superstitions of devils and demons passing in and out of human beings in the form of disease, nor to support the modern superstitions that bacilli and bacteria cause the different diseases. We need not consider to-day whether we are really faced with the results of the spiritualistic superstitions of earlier times, or with the superstitions of

materialism. I want rather to consider something that permeates the whole culture of our age, especially in so far as this culture is determined by the convictions of modern science. We are assured to-day that the materialism of the middle and last third of the nineteenth century has been overcome, but this statement does not pass muster with those who really know the nature of materialism and of its opposite. The most one can say is that materialism has been overcome by a few people here and there. These people realise that the facts of modern science no longer justify the general explanation that everything in existence is merely a mechanical, physical or chemical process taking place in matter. But the fact that a few people here or there have come to this conclusion does not mean that materialism has been overcome, for it is equally true that when it is a question of concrete explanation or concrete thought, even these people — and the others as a matter of course--still reveal a materialistic tendency. True, it is said that atoms and molecules are only convenient units of calculation (and here what is implied is that atoms and molecules are made of the substance of *thought*) — but the mode of observation is nevertheless atomistic and molecular in character. When we are explaining world-phenomena from the behaviour and relations of atomic and molecular processes, the point is not whether we conceive any thought, feeling or activity to be inseparable from material processes in atoms or molecules. The point is the *orientation* of the attitude of our soul and

Spirit when our explanation is based upon the atomic theory — the theory of smallest entities. The point is not whether *verbally* or *mentally* a man is convinced that there is something more than the material action of atoms, but whether his mind and spirit can give explanations other than the atomic basis of phenomena. In short, the essential thing is not *what* we believe, but *how* we explain — in a word, our attitude of soul. And here it must be said that only a true Anthroposophical Spiritual Science can help to get rid of the evil of which I have spoken.

I want to prove concretely that this is so. There is hardly anything more confusing than the distinctions which are so often emphasised to-day between man's bodily nature and his nature of soul and Spirit, between physical diseases and so-called psychical or mental diseases. The concrete distinctions and relations between such facts of human life as a diseased body and an apparently diseased soul, suffer from the materialistic, atomistic mode of thought. For what *is* the real essence of the materialism that has gradually come to be the world-conception of so many modern men, and that far from being overcome, is to-day in its prime? The essence of this materialism is not that people observe the material processes in the body and reverently study the marvellous structure and functions of the nerves and other organs, but that the Spirit has departed from the study of these material processes. People look into the world of matter and see *only* matter and

material processes.

What Spiritual Science must emphasise, however, is briefly this: Wherever material processes are presented to the senses — and these are the only processes which modern science will admit as valid and exact — they are but the outer manifestation, the outer revelation of active spiritual forces lying behind and within them. Now it *is* not typical of Spiritual Science to observe a human being and say: “There is his physical body — a sum-total of material processes — but he does not consist of this alone. Independently of this he has an immortal soul.” It is far from being characteristic of a spiritual conception of the world to speak like this and then build up all manner of abstract, mystical theories about this immortal soul that is independent of the body.

We can only be spiritual scientists in the true sense when we realise that this material body, with its material processes, *is a creation of the Spirit and soul*. We must learn to understand in every detail the way in which the soul and Spirit — which were there before birth, or rather, before conception — are fashioning and moulding the structure and the “material” processes of the human body. We must be able to perceive the immediate unity of the body and the soul-and-Spirit, and realise that through the working of these principles the body as such is gradually destroyed. The body undergoes a partial death with every moment that passes, but it is only at

actual death that there is a radical expression of what has been happening to the body all the time, as a result of the working of the soul-and-Spirit. We are not spiritual scientists in the true sense until we have concrete realisation of this living interplay, this living interaction between the soul and every single part of the body, and are able to say: The soul and Spirit descend into concrete processes, into the functions of liver, breathing, the action of heart, brain and so forth. In short, when we are describing the material part of man, we must know how to portray the body as the direct offspring of Spirit. Spiritual Science is able to place a true value on matter because, in the different concrete processes, it does not merely observe what is there before the eye or conjectured by the abstract concepts of modern science, but because it shows *how* the Spirit works in matter, and it looks with reverence at the material workings of the Spirit.

That is one essential point. The other is that such a conception guards man against all the abstract tittle-tattle about a soul independent of the bodily nature — for so far as the life between birth and death is concerned, man can only spin fantasies about this. Between birth and death (with the exception of the time of sleep), the being of soul and Spirit is so utterly given up to the bodily activities that it lives *in* them, manifests in them. We must be able to observe the being of soul and Spirit *outside* the range of earthly life, realising that existence between birth and death is but the outcome of the

soul and Spirit. Then we can behold the actual unity of the soul and Spirit with the physical elements of the body. This is Anthroposophical Spiritual Science, for we know in very truth that the human being as we perceive him with all his organs and structures has been created by the soul and Spirit.

Mystical and theosophical ideas may evolve all manner of high-sounding theories about a spirituality that is free of the body, but such ideas can never serve the concrete sciences of life. They can only pander to an intellectualistic or psychic craving which would like to be rid of outer life and then weave fantasies about the soul and Spirit in order to induce a state of inner satisfaction.

In this Anthroposophical Movement of ours it behoves us to work earnestly and sincerely to develop a Spiritual Science which will be able to bring life into physics, mathematics, chemistry, physiology, biology, anthropology. No purpose is served by making statements in a religious or philosophical sense to the effect that man bears an immortal soul within him, and then working in the different branches of science just as if we were concerned merely with material processes. Knowledge of the soul and Spirit must be applied to the very details of life, to the marvellous structure of the body itself. You will come across many mystics and theosophists who love to chatter about man being composed of physical body, etheric body, astral body and Ego. And yet they have no idea what a wonderful manifestation of soul-life it is when one

blows one's nose! The point is that we must see in matter a manifestation of the Spiritual. Then we have healthy ideas of the Spirit — ideas that are full of content, and with them a Spiritual Science that may be fruitful for all the ordinary sciences of life.

This again will make it possible to overcome elements which, on account of the materialistic trend of scientific knowledge, have led to specialisation in the various branches of science. Now I have no desire whatever to deliver a philippic against specialisation, for I am well aware of its usefulness. Certain domains of life must be dealt with by specialists simply because they need a specialised technique. The point I would make is that a man who holds fast to the material can never reach a conception of the world applicable to the practical details of life when he becomes a specialist in the ordinary sense. For the range of material processes is infinite, both outside in Nature and within the human being. We may devote a long time — as long at any rate as professional people devote to their training to the study of the nervous system in man, for instance, but if material processes are all that we see in the working of the nervous system — processes which are then described according to the abstract concepts of modern science — we shall never be led to any universal principle or to anything upon which a conception of the world can be based. Directly we begin to study the nervous system in the sense of Spiritual Science we shall

inevitably find that the Spirit we see active there, leads us to the soul and Spirit underlying the systems of muscles, bones and senses and so forth. For the Spirit does not “separate off” into single parts as does the material. Very briefly expressed, the Spirit unfolds like an *organism*. Just as we cannot truly study a human being if we merely look at his five fingers and cover the rest of him up, so in Spiritual Science we cannot observe a single detail without being led by the soul and Spirit within this detail, to a *Whole*. If we should happen to become brain or nerve specialists, we should then still be able, in observing the single part, to form a picture of the human being *as a whole*. We should reach a universal principle able to form part of a conception of the world, and then we could begin to speak of specialised subjects in a way intelligible to every healthy-minded, reasonable human being.

This is the great difference between the way in which Spiritual Science is able to speak about the human being and the way in which materialistic science is bound, by its very nature, to speak. If as men and women who in the ordinary course of things do not know very much about the nervous system, you try to read a scientific text-book on the subject, you will probably soon lay it aside. At all events you will not learn much that will help you to realise the worth and dignity of the being of man. If, however, you listen to what Spiritual Science has to say about the nervous system you are everywhere led to the *whole* being of man. Such illumination

is cast on the nature of man that the idea arising within you suggests the worth, the essence and the dignity of the human being.

We realise the truth of this not so much when we are observing merely a single part of the healthy human being, but when we are observing the man who is ill — where there are so many deviations from the so-called normal condition. Now if we can observe the *whole* human being under the influence of some disease, all that Nature reveals to us in the sick man leads us deeply into cosmic connections. We understand the particular constitution of this human being, how the atmospheric and extra-earthly influences are working on him as the result of his particular constitution, and we are then able to *relate* his organisation to the various substances of Nature that will have a remedial effect. When we add to our understanding of the *healthy* man all we learn from observation of the *sick* man, profound insight into the deeper connections and meaning of life will arise.

And such insight becomes in turn the foundation for a knowledge of man that is intelligible to everyone. True, we have not as yet accomplished very much in this direction, for Spiritual Science as we intend it, has only been in existence for a short time. The lectures given here [Dr. Steiner is referring to a number of lectures given by various scientists during the Medical Course at the Goetheanum.] therefore

must only be thought of as a beginning. But, by its very nature, Spiritual Science is able to work upon and develop what is contained in the several sciences in such a way that a knowledge which everyone ought to possess of the being of man, can really be offered to the world.

And now think what it will mean if Spiritual Science succeeds in transforming science in this way — succeeds in developing forms of knowledge relating to men in health and disease that are accessible to ordinary human consciousness. If Spiritual Science succeeds in this, how different will be the relations of one human being to another in social life! There will be far greater understanding in the relation of human beings to each other than there is to-day when men pass each other by without either having the slightest understanding of the individuality of the other. The social question will be lifted away from its intellectualistic character when the several branches of life are based upon objective knowledge and concrete experience. This applies very specially to the domain of health and the care of health. Think of the effect which a true understanding of health and disease in our fellow-men would have in social life. Think what it would mean if the care of health were taken in hand by the whole of humanity with understanding! Of course there must be no scientific or medical dilettantism — most emphatically not. But if understanding for the health and ill-health of our fellow-beings can be awakened — understanding that grows from a

true conception of man think of the effect it would have in social life. Then indeed it would be realised that social reform and reconstruction must proceed in their different branches from *real knowledge* and not from Marxian theories and the like. Such theories lose sight of the human being as such, and want to organise the world on the basis of purely abstract concepts. Healing can never spring from abstract concepts, but only from a true knowledge of the different spheres of life. And hygiene, the care of health, is a very important domain, for it leads us immediately to all the joy that falls to the lot of our fellow-men when their mode of life is healthy and to their sufferings and limitations when the elements of disease lie within them.

When those who are concerned in developing a knowledge of man in health and disease, and those who actually become doctors, have this attitude towards social life, they will be able to shed light on its problems, for they will have true understanding. The position of the doctor nowadays is that those who are not his personal friends or relatives go to his surgery to fetch him when someone is in pain or has broken a leg. When men have knowledge of the kind I have described, the doctor will be a teacher who is continually giving instruction and indicating means for prophylactic hygiene. The doctor will not only be called in to heal when disease has reached a point where men *realise* they are ill, but he will always be working to keep them healthy — so far as this is

possible. In short there will be a living, *social* relationship between the doctors and the rest of the community. And, moreover, this healthy influence will make itself felt in the domain of Medicine itself.

For the very reason that materialism has also spread into the medical conception of life, we have developed extraordinary ideas about illness. On the one side we are faced with all the physical diseases. They are investigated by observing the different organs, or the various processes which are thought to be of a physical nature and are to be found within the confines of the human skin. Then the goal is to seek to rectify what is wrong. In this case, thought about the body of men in its normal and abnormal conditions is wholly materialistic.

Then there are so-called psychical or mental diseases. As a result of materialistic thinking these are considered to be diseases of the brain or nervous system, although efforts have been made to find the causes in other organic systems of the human being. But because people are quite ignorant of the way in which the Spirit and soul work in the healthy body, they are unable to connect these diseases of the Spirit and soul in a rational way with what is actually taking place in the human organism.

Spiritual Science is able to show in every detail how all so-

called mental and psychical disease has its source in *disturbances of the organs*, in enlargements and contractions of the organs in man. A so-called mental or psychical disease is always the result of some irregularity in an organ, in the heart, the liver, the lungs and so on. A Spiritual Science that has developed to the point of knowing how the Spirit acts in a normal heart, is also able to discover in the deterioration or irregularity of the heart, the cause of a diseased life of Spirit or soul.

The greatest fault of materialism is *not* that it denies the existence of the Spirit. Religion can see to it that due recognition is paid to the Spirit. The greatest sin of materialism is that it gives us *no knowledge of matter* because, in effect, it only observes the outer side of matter. What is lacking in materialism is that it has no insight into matter! Take, for instance, psycho-analytical treatments, where attention is wholly directed to something that has taken place in the soul and is described as a “complex” — a pure abstraction. Whereas the right way to proceed is to study how certain impressions which have been made on the soul of the human being at some period of his life and which are normally bound up with a healthy organism, have come into contact with *defective organs*, with a diseased instead of a healthy liver, for example. And it must be remembered that this may have happened a very long time before the moment when the defect becomes organically perceptible.

There is no need for Spiritual Science to be afraid of showing how so-called mental or psychical disease is invariably connected with some organic phenomenon or other in the body of man. Spiritual Science must show with all emphasis that when a “soul-complex” — a deviation from the so-called “normal life of soul” — is studied, the most that can be achieved is a one-sided diagnosis. Psycho-analysis, therefore, can never lead to anything more than a diagnosis, never to a real therapy in this domain. In mental or spiritual diseases therapy must proceed to administer a cure for the *body* and for this reason there must be exact knowledge of the ramifications of the Spiritual in the material. We must know where to take hold of the material body (which is permeated with Spirit) in order to cure the disease of which abnormal conditions of soul are but the symptoms. Again and again it must be emphasised by Spiritual Science that the root of so-called mental or psychical diseases lies in the *organic* system of the human being. But it is only possible to understand abnormal organology when the Spirit can be traced in the most minute parts of matter.

And again: phenomena of life which seemingly affect or function in the element of soul, all that is expressed in the different temperaments, for instance, and the activity of the temperaments in the human being, in the way in which the tiny child acts, plays, walks — all this is to-day merely studied from a “psychological” point of view, but it also has its bodily

aspect. Faulty education of the child may come to expression in later life in the form of some familiar physical disease. In certain cases of mental trouble we must often study the bodily constitution and look for the cause there, and again in certain cases of physical diseases, we must study the Spiritual before we can find the cause. The whole essence of Spiritual Science is that it does not speak in abstractions of a nebulous Spirit, like people of a mystical or theosophical turn of mind, but traces the Spirit right down into its *material workings*. Spiritual Science never conceives of the material in the sense of modern science but always presses on to the Spirit, and so it realises that an abnormal soul-life must inevitably express itself in an abnormal bodily life, although the abnormality may, to begin with, be hidden from external observation. On all sides to-day people form entirely false ideas of true Anthroposophical Spiritual Science and there may be a certain justification for this when they listen to speeches of those who do not seriously penetrate to the heart of the teaching but give utterance to abstract theories — man consists of such and such, there are repeated earthly lives, and so forth. All these things are of course full of significance and beauty, but the point is that we must penetrate to the heart of the particular subjects and the various spheres of life of which we speak.

In the very widest sense, the Spiritual-Scientific mode of thinking leads to a social, communal consciousness among

men. For when people are able to perceive, on the one hand, how a soul that is sick sends its impulses into the organism, when they really understand the connection between the organism and the soul that is sick, and when they know how the general ordering of life affects the health of human beings — then the position of each individual in the community will be quite different. A true understanding of his fellow-creatures will arise in man and he will treat them quite differently. He will make allowances for the particular characters of those around him, knowing that the one possesses certain qualities and the other quite different qualities. He will learn how to respond to all the variations, how to make the best use of the different temperaments in human society and above all how to unfold and develop them in the true sense.

One domain of life in particular will be healthily influenced by such a knowledge of human nature — I refer to the domain of *education*. Without a comprehensive knowledge of the human being we simply cannot, for instance, measure the consequences of allowing our children to sit in school with bent backs so that they never breathe properly, or never teaching them to utter the vowel and consonant sounds clearly and definitely. As a matter of fact, the whole of later life depends on whether the child at school *breathes* in the right way and whether it is taught to articulate clearly and consciously. This is merely said by way of example, for the same thing applies in other domains. It is, however, an

illustration of the application of general hygienic principles in the sphere of education. The whole social significance of hygiene is revealed in this example.

It is also apparent that instead of further specialisation, life is calling out for the specialised branches of knowledge to be brought together to form a *comprehensive conception of life*. We need something more than educational rules according to which the teacher is supposed to instruct the child. We need something that makes the teacher realise what it means if he helps the child to speak articulately and clearly, or the consequences that will ensue if he allows the child to catch its breath after only half a sentence or line has been spoken, and does not see to it that all the air is used up while the sentence is being uttered.

There are of course many such principles. A right appreciation and practice of them will only develop when we are able to measure their full significance for human life and social health — for only then will they give rise to a social *impulse*.

We need teachers who are able to educate children on the basis of *a conception of the world that understands the true being of man*. This was the thought underlying the Course I gave to the teachers when the Waldorf School at Stuttgart was founded. All the principles of the art of education as

expounded in that Course strive in the direction of making men and women out of the children who are being educated — men and women in whom lungs, liver, heart, stomach, will be healthy in later life because, in childhood, they were helped to develop their life-functions in the right way, because, in effect, the *soul* worked in the right way. This conception of the world will never give a materialistic interpretation of the old saying, *Mens sana in corpore sano*. Interpreted in the materialistic sense this means: If the body is healthy, if it has been made healthy by all kinds of physical methods, then it will of itself be the bearer of a healthy soul. Now this is pure nonsense. The only real meaning of the phrase is this: a healthy body bears witness to the fact that the force of healthy soul has built it up, moulded it, made it healthy. A healthy body proves that a healthy soul has worked within it. That is the right interpretation of the phrase — and only in this sense can it be a principle of true hygiene.

In other words: it is not enough to have, as well as the school teachers who are working merely from an abstract science of education, a school doctor who turns up perhaps once a fortnight, goes through the school and has no idea how really to help. No, what we need is a living connection between medical science and the art of education. We need an art of education that teaches and instructs the children in a way conducive to real health. This is the element that makes hygiene a social question. For the social question is

essentially an *educational* question, and this in turn a medical question — but only in the sense of a medicine, of a hygiene permeated with Spiritual Science.

These things lead us on to something else of extraordinary significance in our theme. For when we really enter Spiritual Science, when it becomes concrete in us, we know that we receive from it something more than the intellectualism of natural science, history or jurisprudence. (All sciences to-day are intellectualistic; even if they claim to be based on practical experience this simply means that they interpret intellectually the results of the experiences of the senses.) Now the content of Spiritual Science differs essentially from these intellectualistic results of natural science and other branches of modern culture. We should be in a sorry plight if all that lives in our intellectualistic culture were not merely a picture but an actual power working deeply into human beings. Intellectualism remains merely on the surface of man's being — and I use this phrase in its comprehensive sense. There are people who only study Spiritual Science intellectually, who make mental notes — there is a physical body, etheric body, astral body, Ego, reincarnation, karma and the like. They put it all into pigeon holes as is the custom in modern natural or social science but they are not sincerely devoting themselves to Spiritual Science when they think like this. They are simply carrying over their ordinary mode of thought to what they find in Spiritual Science. The essential thing about Spiritual

Science is that it must be conceived, felt and experienced *not* in an intellectualistic way, but quite differently. It is for this reason that by its very nature Spiritual Science has a living, vital relation to the human being in health and disease, but a relation altogether different from what is often imagined.

People must by now have realised to their cost the powerlessness of purely intellectual culture to deal with those who are suffering from so-called mental disease. The sufferer will tell you, for instance, that he hears voices speaking to him. No matter what intellectual reasoning you use with him — it is all useless, for he will know how to make all manner of objections. You may be sure of that! Even this might be an indication that in such a case one has to do, not with a disease of the conscious or unconscious life of soul but with a disease of the organism. Spiritual Science teaches, moreover, that one cannot get to grips with these so-called mental and psychical diseases by the kinds of methods that have recourse, for instance, to hypnotism, suggestion and the like, but that one must approach mental disease by “physical” means — by healing the organs of man, and this is exactly where a spiritual knowledge of the human being is all-essential, Spiritual knowledge recognises that so-called mental diseases cannot be affected by methods that are of a “spiritual” or “psychical” nature, because, in effect, this kind of illness arises from the fact that the spiritual member of man’s being has been pressed outwards (as is otherwise the case

only in sleep). As a consequence, the spiritual member is weak and we must proceed to cure the bodily organ in order that the soul and Spirit may be received into it again in a healthy way.

Now Imagination, Inspiration and Intuition [The three higher modes of cognition as described by Dr. Steiner in many lectures and writings. *Ed.*] — which proceed, not from the intellect alone but from the *whole* being of man as the outcome of Spiritual Science — penetrate into the whole organism. In short, true Spiritual Science penetrates with *health-bringing* force into the physical organisation of man.

The fact that certain dreamy people feel ill or show signs of the reverse of health in their spiritual-scientific activities is no proof that this statement is false. There are so many who are not really spiritual scientists at all but who simply amass with their intellects collections of notes upon the results of Spiritual Science. *The promulgation of the real substance of Spiritual Science is in itself a social hygiene*, for it works upon the whole being of man and regularises his organic functions when they show signs of deviating from the normal either to the side of morbid dreaming or the reverse. Here we have the essential difference between the content of Spiritual Science and that of merely intellectualistic science. The concepts arising in the domain of intellectualism are much too “bloodless” — because they are merely analogies to get to

grips with the being of man and work healthily upon him. The concepts of Spiritual Science, on the other hand, have themselves arisen from a knowledge of the whole being of man. Lungs, heart, liver the whole being and not the brain alone — have collaborated in the building up of spiritual-scientific concepts. Inherent within them, penetrating them with a plastic formative force, are elements which proceed from the whole being of man. And this is the sense in which Spiritual Science can enter and give direction to hygiene as a social concern.

In many other ways too — for I can only indicate certain examples — Spiritual Science will be able, when it gains a firm footing in the world, to lay down guiding lines for the life of humanity in the sphere of health.

Let me here give just one brief indication. The great difference between the human organisation in waking and sleeping life is one of the subjects to which Spiritual Science has again and again to return. How the Spirit and soul act in waking life, how and when they permeate each other in the body, soul and Spirit of man — how they act when they are temporarily separated from each other in sleep — all these things are conscientiously studied by Spiritual Science. Here I can do no more than refer to a certain principle, but it is nevertheless a well-founded deduction of Spiritual Science.

Certain *epidemics* appear in life — illnesses that affect whole masses of the population and are therefore essentially a social concern. Ordinary materialistic science studies these illnesses by examining the physical organism of man. It knows nothing of the tremendous effect which the abnormal attitude of human beings to waking and sleeping life has upon epidemics and the susceptibility to epidemic diseases. Certain things take place in the organism during sleep and if they run to excess, they strongly predispose the human being to so-called epidemic diseases. Men and women who set organic processes in action as the result of too much sleep — I mean processes that ought not to take place, because waking life must not be broken up by such lengthy periods of sleep — these people have a much stronger predisposition to epidemic diseases and are less able to resist them.

Now you can well realise what it would mean to explain the right proportions of sleeping and waking life. These things cannot be dictated. You can of course tell people that they must not send children with scarlatina to school, but you cannot tell them in the same way that they ought to get, say, seven hours of sleep. And yet it is much more important than any prescription, that people who need it should have seven hours of sleep and others for whom this is not necessary, should sleep much less — and so forth.

These matters, which are so intimately connected with the

personal life of human beings, have a very great bearing and effect upon social life. How the social effects come about, whether a larger or smaller number of people are obliged owing to illness to be absent from their work, whether or not a whole region is affected — all these things depend upon the most intimate details of man's life. Hygiene here plays an immeasurably important part in social life. No matter what people may think about infection or non-infection — this element is none the less a factor in epidemics. And here external regulations are of no avail; the only thing that will avail is to educate, within human society, men and women who are able to meet the doctors who are trying to explain prophylactic measures, *with understanding*. This can give rise to an active co-operation for the preservation of health between the doctors who understand the technique of their profession, and the laity who understand the nature of the human being. ... It is, of course, not the laity nor the amateurs who will do the healing, but reasonable human beings will bring understanding to meet the professional medical men who tell them this or that. If he understands the human being — and this understanding can be developed in social life in collaboration with the doctor — the layman can form an intelligent idea of technical science and then, in democratic Parliaments he can say "Aye" with a certain understanding and not because of the pressure of authority. The sphere of hygiene *can become* a social concern in the true sense if it is made fruitful by a science of medicine enriched by Spiritual

Science. In short, hygiene can become in the real sense, and to a high degree, an affair of the people, of the democracy.

Fundamentals of Anthroposophical Medicine 1

I must ask my audience to be considerate with me today, because I have just arrived after a very tiring journey and probably will not feel able to speak to you adequately until tomorrow.

I want this first lecture to be a kind of introduction to the series I am to deliver here. I had not really intended to speak during this medical conference, because I think the stimulus given by anthroposophical research to medicine and to natural scientific thinking ought to be worked out by those who are specialists in the various domains. Indeed, all that comes from anthroposophical investigation regarding medicine and, for instance, physiology, can be no more than a stimulus that must then be worked out empirically. Only on the basis of this empirical study can there arise valid and convincing judgments of the matters in question — and this is the kind of judgment that is needed in the domain of therapy.

These lectures, however, are given at the special request of our doctors here, and I shall try to deal with those points where anthroposophy can illuminate the realm of medicine. I shall endeavor to show, first of all, that an understanding of the human being in both health and disease can be enriched and deepened through the anthroposophical view.

By way of introduction perhaps you will permit me to speak

of the sense in which the anthroposophical approach should be understood today, in our own age. People so readily confuse what is here called anthroposophy with older traditional ideas about humanity. I have no wish to waste words about the value of these old conceptions or to criticize them in any way, but it must be emphasized that the conceptions I am putting forward are founded on a very different basis from that of the various mystical, theosophical, and gnostic ideas that have arisen traditionally in the course of human history. In order to make myself clear, I need mention only the main points of difference between the conceptions that will be presented here and those of earlier times.

Those earlier conceptions arose in human thought at a time when there was no natural science in our sense; mine have been developed in an age when natural science has not only come into being but has reached a certain — albeit provisional — perfection. This must always be remembered if we wish to understand the meaning and significance of our studies, for it applies to everything that may be said and discovered by anthroposophy about the most varied branches of human knowledge and ability.

You all know — and I don't need to enlarge upon it for you — that in those earlier times man had a non-scientific (in our sense) conception of the super-sensible world. Medicine, too,

was permeated with super-sensible conceptions, with conceptions of the human being that did not originate, as is the case today, from empirical research. We need go back only to the age shortly before that of Galen, and if we are open-minded enough we shall find everywhere spiritual conceptions of the being of man on which medical thought, too, was based. Permeating these conceptions of the form of the human being, the form of his organs and of human functions, were thoughts about the super-sensible. According to our modern empirical way of thinking, there are no grounds for connecting anything super-sensible with the nature and constitution of the human being, but in those older conceptions the super-sensible was as much a part of human nature as colors, forms, and inorganic forces now seem to us bound up with the objects in the outer world.

Only a person with preconceptions will speak of those earlier ages in the development of medicine as if its ideas were merely childish, compared with those that have evolved today. Nothing could be more inadequate than what history tells us in this connection, and anyone who has the slightest understanding of the historical evolution of humanity, who does not take the point of view that perfection has been reached and that everything earlier is mere foolishness, will realize that even now we have arrived only at relative perfection and that there is no need to look back with a supercilious eye upon what went before. Indeed, this is

obvious when we consider the results that were achieved. On the other hand, an individual concerned with any branch of knowledge today must never overlook all that natural science has accomplished for humanity in this age. And when — to use the Goethean expression — a spiritual way of considering the human being in sickness and health wishes to become active today, it must work with and not against natural scientific research.

After what I have said I hope you will not accuse me of wishing to cast aspersions on the concepts of natural science. Indeed, I must emphasize at the beginning that such a thing is out of the question and for a very fundamental reason. When we consider the medical views that were held in an earlier period of civilization, we find that although they were by no means as foolish as many people believe nowadays, they did lack what we have gained through natural science, for the simple reason that man's faculty of cognition was not then adapted to see objects as we see them today by means of our senses and the products of empirical thought. The doctor (or I might just as well say the physiologist or biologist of ancient times) saw in an entirely different way from the way modern man sees. In the times that really come to an end with Galen, medical consciousness had quite another orientation. What Galen saw in his four elements of the human organism, in the black and yellow gall, in the phlegm and in the blood, was utterly different from what the human being sees today.

If we understand Galen's words — as a rule, of course words handed down from ancient times are not understood — then what he describes appears nebulous today. He saw as a reality what to us appears nebulous; in what he called phlegm he did not see the substance we call phlegm. To him phlegm was not only a fluidity permeated with life but a fluidity permeated with soul. He saw this. He saw this as clearly as we see something as red or blue. But precisely because he was able to see something outside the range of modern scientific consciousness, Galen was not able to see many things that are brought to light today by our scientific consciousness.

Suppose, for example, that a man with slightly abnormal vision looks through glasses, and by this means the contours of objects become sharper than they would otherwise appear to him. In the same way, as the result of modern empiricism all that was once seen hazily, but nonetheless permeated by spirit and soul, has disappeared and been replaced by the sharp contours of our modern empirical observation. The sharp contours were not there in ancient times. Healings were performed out of a kind of instinct that was bound up with an intense development of human compassion. A sort of participation in the patient's disease, which could even be painful, arose in the doctor of ancient times, and on the basis of this he set about his cure. The sharp boundaries that we perceive today through our empiricism based in the senses

were not seen at all.

Because the advance to this sense-oriented empiricism is rooted in the evolution of man, we cannot merely brush it aside and return to the old. Only if we develop certain atavistic faculties will we perceive nature as the ancients perceived her, in all domains of knowledge, including that of medicine. In our modern civilization, when we grow up equipped with the kind of training given in our lower schools — not to speak of higher education — it is simply impossible to see things as the ancients saw them; moreover, if a person did see things in this way he would be regarded as being if not gravely, at any rate mildly psychopathic, not quite “normal.” Indeed, this would not be altogether unjust, for there is something psychopathic today in all instinctive “clairvoyance,” as it is called. We must be quite clear about this. What we are able to do, however, is to work our way up to a perception of the spiritual by developing inner faculties otherwise latent in the soul, just as in the course of evolution the eye has evolved itself from indefinite vision to sharply contoured vision.

Today, then, it is possible to develop faculties of spiritual perception. I have described this development in my book, [*Knowledge of the Higher Worlds and How to Attain It*](#), and in my other writings. When an individual has developed these faculties, he sees, to begin with, a world not previously visible to him, a world encompassing a kind of spiritual cosmos

beyond the cosmos revealed to sense perception today, including the discoveries and calculations of astronomy. To the sense-perceptible cosmos that is permeated by natural law, a spiritual cosmos is added. And when we seek to discover what exists in this spiritual cosmos, we also find the human being. We take hold of a spiritual universe, a universe permeated with soul and spirit, and we see the human being as a member of this universe.

If we pursue ordinary natural science, we begin either with the simplest living being or with the simplest form of life — the cell — and then trace the simple on into the more complex, ascending thus from what most resembles purely physically organized substance to the highly intricate human organism. If we are seriously pursuing spiritual science, we begin at the other end. We descend from a comprehension of the spiritual in the universe, regarding this as complex, and we look at the cell as the simplest thing in the organism. Viewed in the light of spiritual science, the universe is the summit of complexity, and just as we gradually elaborate the elements of our own cognition in order, let us say, to pass from the cell to the human being, so we progressively simplify what the cosmos reveals and then come to the human being. We follow an opposite path — that is to say, we begin at exactly the opposite starting point — but when we pursue spiritual science today in this way, we are not at first led all the way into the regions encompassed by modern material empiricism.

I wish to stress this point strongly and hope that there will be no misunderstanding particularly regarding these fundamentals. This is why I must ask you today to forgive these somewhat pedantically formed concepts.

It is quite conceivable that someone might think it useless to adopt the methods of empirical thought in physiology or biology. "What need is there for any specialized branch of science?" he might ask. "One develops spiritual capacities, looks into the spiritual world, arrives at a view of man, of the being of man in health and disease, and then it is possible to found a kind of spiritualized medicine." This is just the kind of thing many people do, but it leads nowhere. They abuse empirical medicine, but they are abusing something they do not understand in the least. We should not even consider writing off ordinary sense-oriented empirical science as worthless and taking refuge in a spiritualized science brought down from the clouds. That is quite the wrong attitude to adopt.

Spiritual scientific investigation does not lead to the same things that are examined under the microscope. If anyone tries to pretend that with the methods of spiritual science he has found exactly the same things he finds under a microscope, he may safely be summed up as a charlatan. The results of modern empirical investigation are there and must be reckoned with. Those who seriously pursue science

also in the sense of spiritual scientific anthroposophy do not simply depart from sense-oriented empiricism; it is necessary to take such empiricism into account. One who might be called an expert in an anthroposophical spiritual science must first concern himself with the phenomena of the world in the sense of ordinary empiricism.

From spiritual science we discover at first certain guidelines for empirical research, certain ruling principles, showing us, for instance, that what exists at a particular place in the organism must be studied also in reference to its position. Many people will say, "Yes, but a cell is a cell, and purely empirical observation must determine the distinguishing feature of this cell — whether it is a liver cell or a brain cell and so on." This is not the case. Suppose, for example, I walk past a bank at nine o'clock in the morning and see two men sitting there side by side. I look at them and form certain judgments about various things in relation to them. At three o'clock in the afternoon it happens that I again walk past the bank. There are the two men, sitting just as before. The empirical state of affairs is exactly the same in both cases, allowing for very slight differences. But now, think of it: one of the men may have remained sitting there for the whole six hours. The other may have been sent out on quite a journey right after I first passed the bank and may have just returned. This essentially alters the picture and has nothing to do with what I actually perceive with my senses. As far as my senses

are concerned, the same state of affairs presents itself at nine o'clock in the morning and three o'clock in the afternoon, but the state of affairs determined by sense observation must be judged in accordance with its constituents.

In this sense our conception of a liver cell must differ essentially from our conception of a cell in the brain or the blood. Only if it were correct to say, for the sake of example, that the basis of everything is a primeval germ cell that has been fertilized and that the whole organism can be explained by a process of simple division and differentiation of this primeval germ cell — only then could we proceed to treat a liver cell exactly the same as a brain cell in accordance with the purely empirical facts. Yes, but now suppose that this is by no means correct, that by virtue of its very position in the organism the relation of a liver cell to forces outside man, outside the bounds of the skin, is not at all the same as the relation of a brain cell to these forces. In that case it will not be correct to look on what is happening merely as a continuation of the process of division and subsequent location in the body. We must rather assume that the relation of the brain cell to the universe outside is quite different from that of the liver cell.

Suppose someone looks at the needle of a compass, finds it pointing from South to North, from North to South, and then decides that the forces that set the needle in the North-South

direction lie in the needle itself. He would certainly not be considered a physicist today. A physicist brings the needle of the compass into connection with what is called earthly magnetism. No matter what theories people evolve, it is simply impossible to attribute the direction of the needle to forces lying within the needle itself. It must be brought into relation with the universe.

In studying organic life today, the relationship of the organic to the universe is usually regarded as quite secondary. But suppose it were indeed true that merely on account of their different positions the liver and the brain are actually related quite differently to universal forces outside the human being. In that case we could never arrive at an explanation of the human being by way of pure empiricism. An explanation is possible only if we are able to say what part the whole universe plays in molding the brain and the liver, in the same sense as the earth plays its part in the direction taken by the needle in the compass.

Suppose we are tracing back the stream of heredity. We begin with the ancestors, pass on to the present generation, and then to the offspring, both in the case of animals and of human beings. We take into account what we find — as naturally we must — but we reckon merely with processes observed to lie immediately within the human being. It hardly ever occurs to us to ask whether under certain conditions in

the human organism it is possible for universal forces to work in the most varied ways upon the fertilized germ. Nor do we ask: Is it perhaps impossible to explain the formation of the fertilized germ cell if we remain within the confines of the human being himself? Must we not relate this germ cell to the whole universe?

In orthodox science today, the forces that work in from the universe are considered secondary. To a certain limited extent they are taken into consideration, but they are always secondary. And now you may say: "Yes, but modern science leads us to a point where such questions no longer arise. It is antiquated to relate the human organs to the universe!" In the way in which this is often done, it is antiquated, but the fact that generally such questions do not arise today is due entirely to our scientific education. Our education in science confines us to this purely sense-oriented empirical mode of research, and we never come to the point of raising questions such as I have posed hypothetically by way of introduction. But the extent to which man is able to advance in knowledge and action in every sphere of life depends upon raising questions. Where questions never arise, a person is living in a kind of scientific fog. Such an individual is himself dimming his free outlook upon reality, and it is only when things no longer fit into his scheme of thought that he begins to realize the limitations of his conceptions.

I believe that in the domain of modern medicine there may be a feeling that the processes taking place in the human being are not wholly reconcilable with the simple, straightforward theories upon which most cures are based. There is a certain feeling that it must be possible to approach the whole subject from another angle. And I think that what I will have to say in this connection will mean something especially to those who are specialists in their particular branches of science, who have practical experience of the processes of health and disease and have realized that current conceptions and theories are everywhere too limited to grapple with the complexity of the facts.

Let us be quite honest with ourselves in this regard. During the entire nineteenth century a kind of axiom was put forward by nearly every branch of scientific and practical thought. With a persistence that was enough to drive one to despair, it was constantly being said, "Explanations must be as simple as possible." And that is just what people tried to do. But if facts and processes are complicated, it is prejudging the issue to say that the explanations must be simple. We must accustom ourselves to deal with complexities. Unspeakable harm has been done in the realms of science and art by the insistent demand for simplification. In all her manifestations, small and great, nature is not simple but highly complicated. We can really grapple with nature itself only if we realize from the outset that the most seemingly comprehensive ideas are

related to reality in the same way that photographs of a tree, taken from one side only, are related to the tree. I can photograph the tree from every side, and the photographs may be very different under different circumstances. The more photographs I have, the more nearly will my mental image approach the reality of the tree.

The prevalent opinion today is this: such and such a theory is correct. Therefore some other theory — one with which we do not happen to agree — must be wrong. But that is just as if a person were to photograph a tree from one side only. He has his particular photograph. Someone else takes a photograph from another side and says to the first person, “Your photograph is absolutely false; mine, and mine alone, represents the truth.” He claims his particular view to be the correct one. All controversies about materialism, idealism, realism, and the like have really taken this form. The squabbles in such realms are by no means different from the seemingly trivial example I have given as a comparison. At the very outset of our studies I ask you not to take what I have to say as if it were meant to tend in the direction of materialism, idealism, or spiritualism, but merely as an attempt to go straight for reality to the extent to which the capacity of human thought permits. If we wish to master what is real, we can occasionally achieve tremendous results with materialistic conceptions if we are then able to introduce the opposite aspect into our considerations. If it is impossible to

keep the various aspects separate, our ideas will appear as if we took many different photographs all on the same piece of film. Indeed, many things are like this today. It is as if photographs from many different aspects had been taken on the same piece of film. Now when the forces lying latent in the soul of man are realized by the methods outlined in my book, [*Knowledge of the Higher Worlds and How to Attain It*](#), we rise above the ordinary standpoint of knowledge — to which the latest phase in biology pays special attention — and reach what I have described as Imaginative cognition or knowing. A still wider standpoint is that of Inspired knowing, and the highest, if I may use this expression, is that of the Intuitive, of real Intuitive knowing. In Imaginative cognition, I receive pictures of reality, knowing very well that they are pictures, but also that they are pictures of reality and not merely dream-pictures. In Imaginative cognition I do not have reality yet, but I have pictures of a reality. At the stage of knowing by Inspiration, these pictures acquire a certain consistency, a viscosity, something lives within them; I know more through the pictures than the pictures alone yielded me. I know by means of the pictures that they are related to a spiritual reality. And in the acts of Intuitive knowing I stand within this spiritual reality itself. This is the ascent through the three stages described in [*Knowledge of the Higher Worlds and How to Attain It*](#).

Now these three modes of higher knowledge give us, to

begin with, knowledge of spiritual worlds, a knowledge that goes beyond ordinary, sense-oriented factual knowledge. They give knowledge of a spiritual universe and of man as a soul-spiritual being; they do not, in the early stages, reveal to us today's findings of empirical research in the realm of, say, biology. When Imagination, Inspiration, or Intuition is used to gain understanding of the being of man, a different approach is applied.

Take, for instance, the structure of the human brain. Perhaps it does not strike physiologists and doctors as very extraordinary, but to those who call themselves psychologists it is remarkable. Psychologists are a strange phenomenon in our civilization because they have managed to develop a science without subject matter — a psychology without a soul! For the psychologist this structure of the brain is very remarkable. Think for a moment of a psychologist who takes his start purely from empirical science. In recent times it has been impossible to distinguish whether a philosopher knows something or not. Natural scientists, however, are always supposed to know something, and so in modern times certain scientists who dabble in philosophy have been given Chairs of Philosophy. Current opinion has been this: natural scientists must have some knowledge, because although it is quite possible in philosophy to talk around and around a subject, it is not possible in natural science to spout hot air about something that has been observed under a microscope,

through a telescope, or by means of x-rays. All these things can be tested and proven, but in philosophy it is not so easy to prove whether or not a man is speaking out of the clouds.

Think of how Theodor Ziehen speaks about the structure of the brain. In this connection I once had a very interesting experience, and perhaps I can make the point more concrete by telling you an anecdote. Many years ago I attended a meeting where an eminent doctor was lecturing about the life of soul in connection with the brain and its structure. The chairman of the meeting was a follower of Herbart, and he, therefore, was not concerned with analyzing the structure of the brain but the conceptual life, as Herbart, the philosopher, had once done. The chairman then said, “Here we have something very remarkable. The physiologist or the doctor makes diagrams and figures of the structure of the brain. If I, as a Herbartian, make drawings of the complicated association of ideas — I mean a picture of the ideas that associate and not of the nerve fibers connecting one nerve cell with another — if I, as a genuine Herbartian who does not concern himself with the brain as a structure, make symbolic diagrams of what I conceive to be the process underlying the linking together of ideas, my drawings look exactly the same as the physiologist’s sketches of the physical structure of the brain.”

This comparison is not unjustified. Natural science has

taught us more and more about the structure of the brain. It has been proven in ever greater measure that the outer structure of the brain does, indeed, correspond in a marvelous way with the organization of our conceptual life. Everything in the conceptual life can be found again in the structure of the brain. It is as if nature herself — please take this with a grain of salt — had intended to create in the brain a sculptural image of man's conceptual life. Something of the kind strikes us forcibly when we read statements like those of Meynert (which nowadays are already considered rather out of date). Meynert was a materialist but an excellent neurophysiologist and psychiatrist. As a materialist, he offers us a wonderful contribution to what is discovered when the actual human brain is left out of account and we deal only with the way in which mental images unite, separate, etc., and then sketch these symbols. In short, if anything could make a person a materialist it is the structure of the human brain. In any event it must be conceded that if the spirit and soul do indeed exist, they have an expression so perfect in the human brain that one is almost tempted to ask why the spirit and soul in themselves are necessary for the conceptual life, even if people do still long for a soul that can at least think. The brain is such a true mirror-image of the soul-spiritual — why should the brain itself not be able to think?

All these things must of course be taken with the well-known grain of salt. Today I only wish to indicate the tenor of

our studies as a whole. The human brain, especially when we undertake detailed research, is well calculated to make us materialists. The mystery that really underlies all this clears up only when we reach the stage of Imaginative knowledge, where pictures arise, pictures of the real spiritual world not previously visible. These pictures actually remind us of the configurations in the human brain formed by the nerve fibers and nerve cells.

What, then, is this Imaginative cognition, which naturally functions entirely in the super-sensible world? If I attempted to give you a symbolic representation of what Imaginative knowledge is, in the way that a mathematician uses figures to illustrate a mathematical problem, I would say the following: imagine that a person living in the world knows more than sense-cognition can tell him because he can rise to pictures that yield a reality, just as the human brain yields the reality of the human soul. In the brain, nature itself has given us as a real Imagination, an Imagination perceptible to the senses, something that is attained in Imaginative knowledge at a higher level.

This, you see, leads us more deeply into the constitution of the human being. As we shall see in the next few days, this marvelous structure of the human brain is not an isolated formation. Through Imagination we behold a world, a super-sensible world, and it is as though a part of this world had

become real in a lower world; in the human brain we behold a world of Imagination in concrete fact. I do not believe that anyone can speak adequately about the human brain unless he sees in its structure an Imaginative replica of the life of soul. It is just this that leads us into a dilemma when we take our start from ordinary neurophysiology and try to pass to an understanding of the life of soul. If we confine ourselves to the brain itself, a life of soul over and above this does not seem necessary. The only individuals with a right to speak of a life of soul over and above the structure of the human brain are those who have knowledge of it other than what is acquired by customary methods in this world. For when we come to know this life of soul in the spiritual world, we realize that it has its complete reflection in the structure of the human brain, and that the brain, moreover, can do everything that the super-sensible organ of soul can do by way of conceptual activity. Down to its very function the brain is a mirror-image. With neurophysiology, therefore, no one can prove or disprove materialism. It simply cannot be done. If the human being were merely a being of brain, he would never need to say to himself, "Over and above this brain of mine, I possess a soul."

In contrast to this — and I shall now describe in an introductory way something that will be developed in the following lectures — let us turn to a different function of the human being, not the conceptual life but the process of

breathing, considered functionally. Think of the breathing processes and what comes into human consciousness with regard to them; with these you will not come to something similar in the organism, as you did regarding the conceptual life. When you say to yourselves, “I have an idea that reminds me of another idea I had three years ago, and I link the one to the other,” you may well be able to make diagrams (especially if you take a series of ideas) that bear a great resemblance, for instance, to Meynert’s sketches of the structure of the brain. Now this cannot be done when you try to find an expression in the human organism for what is contained in the breathing processes. You can find no adequate expression for the breathing processes in the structures and formations of the physical organs, as you were able to for the conceptual life in the brain. The breathing processes are something for which there is no adequate expression in the human organism, in the same sense as the structure of the brain is an adequate expression for the conceptual life, the perceptual life.

In Imaginative knowledge pictures arise before us, but if we rise to knowledge by Inspiration, reality streams through the pictures from behind, as it were. If, then, we rise to Inspiration and gaze into the super-sensible world in such a way that the Imaginations teem with spiritual reality, we suddenly find ourselves standing in something super-sensible that has its complete analogy in the connection between the breathing

processes, the structure of the lungs, the structure of the arachnoidal space, the central canal of the spinal cord, and the penetration of the impulse of the breath into the brain. In short, if you rise to Inspiration, you learn to understand the whole meaning of the breathing process, just as Imaginative knowledge leads to an understanding of the meaning of the structure of the brain. The brain is an: Imagination made concrete; everything connected with breathing is an Inspiration made real, an Inspiration brought down into the world of the senses. One who strives to reach the stage of Inspired knowledge is transplanted into a world of spirit and soul, but this world lies there tangibly before him when he observes the whole breathing process and its significance in the human organism.

Imagination, then, is necessary for an understanding of the structure of the brain; Inspiration is necessary in order to understand the rhythm of breathing and everything connected with it. The relation of the breathing rhythm to the universe is quite different from that of the brain's structure. The outer, sculptural structure of the brain is so completely a mirror-image of the spiritual that it is possible to understand this structure without penetrating deeply into the super-sensible world. Indeed, we need only rise to Imagination, which borders quite closely on ordinary cognition. The breathing process cannot be understood by means of Imagination; here you must have Inspired knowledge, you must rise higher in

the super-sensible world.

To understand the metabolic process one must rise still higher in the super-sensible world. The metabolic process is really the most mysterious of all processes in the human being. The following lectures will show that we must think of this metabolic process quite differently from the way in which it is thought of today in empirical physiology. The changes undergone by the substances as they pass from the tongue to the point where they bring about something in the brain cells, for instance, cannot, unfortunately, be followed by means of merely empirical research but only by means of Intuitive knowledge. This Intuitive knowledge leads us beyond the mere perception of the object into the object itself. In the brain, the spirit and soul of man create for themselves a mere image of themselves but otherwise remain outside this image. Spirit and soul permeate the breathing rhythm but constantly withdraw again. In the metabolism, however, the human spirit and soul immerse themselves completely so that as spirit and soul they even disappear. They are not to be found — nor are they to be found by empirical research.

And now think of Theodor Ziehen's subtle descriptions of the structure of the human brain. It is also possible, in fact, to make symbolic pictures of the memory in such a way that their physiological-anatomical counterparts in the brain can be pointed out. But when Ziehen comes to the sentient

processes of feeling, there is already a hitch, and that is why he does not speak of feelings as independent entities but only of mental images colored with feeling. And modern physiologists no longer speak about the will at all. Why? Of course they say nothing! When I want to raise my arm — that is to say, to enact an act of will — I have, first of all, the mental image. Something then descends into the region that, according to current opinion, is wholly “unconscious.” Everything that cannot be actually observed in the life of soul, but is nonetheless believed to be there, is thrown into the reservoir of the “unconscious.” And then I observe how I move my hand. Between the intention and the accomplished fact lies the will, which plays right down into the material nature of the physical organism.

This process can be followed in detail by Intuition; the will passes down into the innermost being of the organism. The act of will enters right into the metabolism. There is no act of will performed by physical, earthly man that cannot be traced by Intuitive knowledge to a corresponding metabolic process. Nor is there any process of will that does not find its expression in disintegration or dissolution — call it what you will — within the metabolic processes. The will first removes what exists somewhere in the organism in order that it may unfold its own activity. It is just as if I were to burn up something in my arm before being able to use this limb for the expression of my will. Something must first be done away

with, as we shall see in the following lectures. I know that this would be considered a terrible heresy in natural science today, but nevertheless it will reveal itself to us as a truth. Something substantial must be destroyed before the will can come into play. Spirit and soul must establish themselves where substance existed. This is the essence of Intuitive knowledge, and you will never be able to explain the metabolic processes in the human being unless you investigate them by means of this knowledge.

These three processes — the nerve-sense process, the rhythmic processes (processes of breathing and blood circulation), and the metabolic processes — encompass fundamentally every function in the human organism. Man is really objective knowledge, knowledge made real — regardless of whether we merely observe him from outside or dissect him. Take the human head. We understand what is going on in the head when we realize that it yields Imaginative knowledge; the processes in the rhythmic system become clear when we know that it yields knowledge by Inspiration; we understand the metabolic processes when we know what Intuitive knowledge is. Thus the principles of reality interpenetrate in the human being. Take, for example, the specific organs of the will — they can be understood only by Intuitive knowledge.

As long as we apply a uniformly objective mode of cognition

to the human being, we shall not realize that, in fact, he is not at all as he is usually assumed to be. Modern physiology knows, of course, that to a great extent the human being is a column of fluid. But now ask yourselves quite honestly whether physiology does in fact reckon with the human being as a column of fluid, or whether it does not proceed merely as if he were a being consisting of sharply contoured solid forms. You will probably have to admit that little account is given to the fact that he is essentially a fluid being and that the solids have merely been inserted into this fluid. But the human being is also an airy, gaseous being, and a being of warmth as well.

The solid part of the human being can well be understood by means of ordinary objective knowledge. Just as in the laboratory I can become familiar with the nature of sulphide of mercury, so by chemical and physical investigation of the human organism I can acquaint myself with all that is solid. It is different with the fluids in the human being. The fluids live in a state of continual integration and disintegration and cannot be observed in the same way as the stomach or heart are observed and then drawn. If I make drawings of these organs as if they were solid objects, a great deal can be said about them, but it is not the same if we really take seriously this watery being of man. In the fluids something is always coming into being and disappearing again. It is as if we were to conceive of the heart as continually coming into being and disappearing, although the process there is not a very rapid

one. The watery being of man must be approached with Imagination.

We must also consider what is gaseous, what is aeriform in us. It is known, of course, how the functions that take place in the aeriform are greatly significant in the organism, it is known how to and from everywhere the aeriform substances in the human organism are in movement, how everything connected with the aeriform is in circulation. When one region of the aeriform interacts with another, however, it follows precisely the pattern of Inspiration. Only through Inspiration can the airy part of the human being be understood.

And now let us pass to the warmth realm in the human being. Try to realize that the human being is something very special by virtue of the fact that he is a structure of warmth, that in the most varied parts of his structure warmth and cold are found present in the most manifold ways. Before we can realize how the human being lives with his ego in his own warmth, we must ourselves live into the process. There must be an act of Intuitive knowledge.

Before you are able to know the whole human being, in his totality — not as if he were simply a mass of solid organs with sharp contours — you must penetrate into the human being from many different angles. Just as we are led from Imagination to Inspiration to Intuition as we pass from the

brain to the other organic structures, so it is when we study the different aggregate states of matter within the human being. The solid part of the human being, his solid bodily nature, hardly differs at all within the human organism from the state in which substances exist outside the human organism. There is an essential difference, however, in the case of what is fluid and gaseous, and above all in the case of the warmth. This will have to be considered in the next lectures. But it is indeed a fact that only when our study of the human being widens in this way do we come to know the real significance for knowledge of the organs within human nature.

Sense-oriented, empirical physiology hardly enables you to follow the functions of the human organism further than the point where the chyle passes from the intestines into the lymphatic vessels. What follows is merely a matter of conjecture. All ideas about the subsequent processes that take place with the substances we take in from the outside world, for instance the processes in the bloodstream, are really nothing but fantasy on the part of modern physiology. The part played in the organization by the kidneys, for example, can be understood only if we observe the catabolic processes side by side with the anabolic processes, which today are almost invariably regarded as the only processes of significance for the human constitution. A long time ago I said to a friend, "It is just as important to study those organs which are grouped around the germ of the human embryo, and

which are later discarded, as to study the development of the human germ itself from conception to birth.” The picture is complete only when we observe the division of the cells and the structure arising from this division, and also trace the catabolic processes that take their course side by side with the anabolic processes. For we do not have this catabolic process around us only in the embryonic period; we bear it within us continually in later life. And we must know in the case of each single organ to what extent it contains anabolic and to what extent catabolic processes. The latter are, as a general rule, bound up with an increase of consciousness. Clear consciousness is dependent on catabolic processes, on the disintegration, the destruction, the removal of matter.

The same must be said about the processes of elimination. The kidneys are organs of elimination. But now the question arises: although from the point of view of sense-oriented empiricism the kidneys are primarily organs of elimination, have they no other significance in the constitution of man beyond this? Do they not, perhaps, play a more important part in building up the human being by virtue of something other than their functions of elimination? If we then follow the functions still further, passing from the kidneys to the liver, for example, we find this interesting phenomenon: the kidneys ultimately excrete outward, the liver inward. And the question arises: How is the relation of the kidney process to the liver process affected by the fact that the kidneys send their

products of elimination outward and the liver inward? Is the human being at one time communing with the outer world, as it were, and at another time with himself?

Thus we are led to a gradual penetration of the human organization, but to assist us in this penetration we need to consider matters that are approached in the ways of which I have given only hints today. I will proceed from this point in the next lecture, showing how these things lead to a real understanding of pathology and therapy, and to what extent they may become guiding principles in the empirical research acknowledged today. This does not imply an attack on such research. The only object is to show that guiding principles are necessary for it to attain its true value.

I am not out to attack natural scientific research or scientific medicine in any sense. My aim is simply to show that in this natural scientific medicine there is a mine of opportunity for a much wider knowledge than can be attained by modern methods and above all by the current outlook of the world. We have no wish to scoff at the natural scientific mode of observation but on the contrary to give it a true foundation. When it is founded upon the spirit, then, and only then, will it assume its full significance.

Tomorrow I will speak further on this subject.

Fundamentals of Anthroposophical Medicine 2

If I were asked to map out a course of medical study for people who would want to approach this study immediately and finish it in a certain period of time, I would begin — after the necessary natural scientific background had been acquired — with a discussion of the various functions in the human organism. I would feel bound to begin with a kind of anatomical-physiological study of the foodstuffs as they are worked through from the stage where they are worked upon by the ptyalin to that of being worked on by the pepsin and then taken up into the blood. Then, after considering the general act of digestion in the narrower sense, I would pass on to discussion of the system of heart and lungs and all that is connected with it. I would then discuss everything connected with the human kidney system. The kidney system must then be discussed in relation to the entire nerve-sense apparatus — a relationship not recognized at all today. Then I would lead on to the system of liver, gall, and spleen, and this cycle of study would gradually open up a vista of how things are arranged in the human organism, a vista that would be needed in order to build up the knowledge that it is the task of an anthroposophical spiritual science to develop. Then, with the light that would have been shed upon the results of sense-perceptible empirical research, it would be possible to pass on to therapy.

In the few days at our disposal, it is only possible, of

course, for me to give a few hints about this wide and all embracing domain. A great deal of what I have to say, therefore, will be based upon a treatment of empirical evidence that is not customary today, but I think it will be quite accessible to anyone who possesses the requisite physiological and therapeutic knowledge. I shall have to speak differently from the way people are accustomed to, but I will really present nothing that cannot in some way be brought into harmony with the data of modern sense-oriented empirical knowledge, if these data are studied in all their connections.

Everything I say will be aphoristic, merely hinting at ultimate conclusions. Our starting point, however, must be the sense-perceptible empirical investigations of modern times, and the intermediate stages will have to be mastered by the work of doctors everywhere. This intermediate path is exceedingly long, but it is absolutely essential because, as things are today, nothing of what I present to you will be fully acknowledged if these intermediate steps are not taken — at least in relation to the most important phenomena. I do not believe that this will prove as difficult as it appears at present, if people will only submit to bringing the preliminary work that has already been done into line with the general conceptions I am trying to indicate here. This preliminary work is excellent in many respects, but its goal still lies ahead.

In the last lecture I tried to show you how broadening ordinary knowledge can give us insight into the human being. And now, bearing in mind what I have just said, let me add the following. To begin with you may find it offensive to hear it said in anthroposophy that the human being, as he stands before us in the physical world, consists of a physically organized system, an etherically organized system, an astrally organized system, and what characterizes him as an ego organization. You do not need to take offense at these expressions. They are used merely because some kind of terminology is necessary. By virtue of this ego system, the human being is able to develop that inner soul cohesion, the inward soul life, that cannot be found in animals. This cohesion reveals itself on the one hand in the fact that the human being can unify his inner experience in an ego-point, if I may use that expression, from which all his general organic activity rays out in a certain sense, at least in the conscious state. It reveals itself on the other hand in the fact that during his earthly evolution the human being has a different relationship to sexual development from that of the animal organization. Though of course there are exceptions, the animal organization is such that sexual maturity represents a certain point of culmination. After this, deterioration sets in. This organic deterioration may not begin in a very radical sense after the first stage of sexual maturity, but there is a certain organic culmination. On the other hand, the physical development of the human being receives a certain impetus

at puberty. Even in the outer empirical sense, then, if we take all the factors into account, there is already a difference between the human being and the animal.

You may say that it is really an abstract method of classification to speak of physical, etheric, astral, and ego organizations. This objection has been made by many people, especially from the side of philosophy. We take the functions of the human organism and differentiate them, and — since differentiations do not necessarily point back to any objective causes — people think that it is all an abstraction. This is not so. In the course of these lectures we will see what really lies behind this classification and division, but I assure you they are not merely the outcome of a desire to divide things into categories.

When we speak of man's physical organization, this encompasses everything in the human organism that can be dealt with by the same methods we adopt when we are doing experiments and investigations in the laboratory. We encompass all this when we speak about the physical organization of the human being.

Regarding the human etheric organization, however, which is incorporated into the physical, our mode of thinking can no longer confine itself to the ideas and laws that apply when we are doing experiments and making observations in the

laboratory. Whatever we may think of the etheric organization of the human being as revealed by super-sensible knowledge — without needing to enter into mechanistic or vitalistic methods in any way — it is apparent to direct perception (and this is a question that would be the subject of lengthy study in the curriculum that I sketched earlier) that the etheric organization as a whole is involved in the fluid nature within the human organization. You need only think of this as a structure of functions that can be grasped directly in this fluid nature. The purely physical mode of thinking, therefore, must confine itself to what is solid in the human organization, to the solid state of aggregation. We understand the human organization properly only when we conceive of what is fluid in this organization as being permeated through and through with life, as living fluids — not merely as the fluids we have in outer, inorganic nature. This is the sense in which we say that the human being has an etheric body.

We do not need to enter into hypotheses about the nature of life but merely to understand what is implied, for example, by saying that the cell is permeated with life. Whatever views we may hold — mechanistic, idealistic, spiritualistic, or the like — when we say that the cell is permeated with life, as the crass empiricist also says, then what is revealed to direct perception yielded by the methods I have referred to here shows that the fluid nature in the human being is likewise permeated with life. But this is the same as saying that the

human being has an etheric body. We must think of everything solid as being embedded in the fluid, and here we already have a contrast: we apply all the ideas and laws derived in the inorganic world to the solid parts of man's being, whereas we think not only of the cells — the smallest organisms present in the human being — as living but of the fluid nature in its totality as permeated with life.

Furthermore, when we come to the airy nature of the human being, it appears that the gases filling his being are in a state of perpetual interchange with each other. In the course of these lectures we shall have to show that this is neither an inorganic interchange nor merely a process of interchange mediated by the solid organs, but that an individual lawfulness controls the inner interchange of the gases in the human being, the vortex formed with the interworkings of the gases. Just as there is an inner lawfulness in the solid substances, expressing itself, among other things, in the relationship between the kidneys and the heart, so we must postulate the existence of a lawfulness within the airy or gaseous organism — if I may use this expression — a lawfulness that is not confined to the physical, solid organs. Anthroposophy designates this lawfulness that directly underlies the airy or gaseous organism as the astral lawfulness, the astral organization. This lawfulness would not be there in the human being if his airy organization had not permeated the solid and fluid organizations. The astral organization does not penetrate

directly into the solid and the fluid. It does, however, directly lay hold of the airy organization. This airy organization directly takes hold of the solid and fluid, so that in the airy human being there is now an organized astral organization by which this airy organization has a definite inner form, which is naturally fluctuating.

By ascending through the aggregate states, we thus arrive at the following conclusions: when we consider the solid substances in the human being we do not need to assume anything other than a physical organization. In the case of the living fluidity that permeates the solid, physical organization, we must assume the existence of something that is not exhausted by the physical lawfulness, and here we come to the etheric organism, which is a self-contained system. In the same sense I give the name astral organization to that which does not directly lay hold of the solid and fluid but first of all penetrates the gaseous organization. I do not call this the astral lawfulness but rather the astral organism, because it is again a self-contained system.

And now we come to the ego organization, which penetrates directly only into the differentiations of warmth in the human organism. We can therefore speak of a warmth organism, a warmth man. The ego organization penetrates directly into this warmth man. The ego organization is, of course, something super-sensible and brings about the

various differentiations of the warmth. In these differentiations of warmth the ego organization has its immediate life. It also has an indirect life in the rest of the organism through the warmth working upon the airy, fluid, and solid organizations.

In this way the human organism becomes more and more transparent. Everything that I have been describing expresses itself in the physical human being as he lives on the earth. What in a certain way can be called the most intangible organization of all — the ego-warmth organization — works down indirectly upon the gaseous, fluid, and solid organizations, and the same is true of the others. Thus the way in which this whole configuration penetrates the human organization, and known through sense-oriented empirical observations, will find expression in any solid system of organs verifiable by outer anatomy. Hence, taking the various organ systems, we find that only the physical organ system is directly related to its corresponding lawfulness, the physical-solid lawfulness; the fluid is less directly related, the gaseous still less directly, and the element of warmth most distantly of all, although even here there is still a certain relation through mediation.

All these things — and I can indicate them here only in the form of ultimate conclusions — can be confirmed by an extended empiricism simply from the phenomena themselves. Due to the short time at our disposal I can only give you

certain ultimate conclusions.

In the anatomy and physiology of the human organization we can observe, to begin with, the course taken by food up to the point when it reaches the intestines and the other intricate organs in that region and is then absorbed into the lymph and blood. We can follow the process of digestion or nourishment in the widest sense up to this point of absorption into the blood and lymph. If we limit ourselves to this realm, we can get on quite well with the not entirely mechanistic mode of observation that is adopted by natural science today. An entirely mechanistic mode of perception will not lead to the final goal in this domain, because the lawfulness observed externally in the laboratory and characterized by natural science as inorganic lawfulness is always playing into the living organism in the digestive tract. From the outset, the whole process is involved in life, even at the stage of the ptyalin-process.

If we pay heed only to the fact that the outer, inorganic lawfulness is immersed in the life of the digestive tract, we can get on quite well, as far as this limited sphere is concerned, by confining ourselves to what can be observed merely within the physical organization of the human being. But then we must be absolutely clear that a remnant of the digestive activity still remains, that the process of nourishment is still not quite complete when the intestinal tract has been

passed, and that the subsequent processes must be studied by a different means of observation. But as far as the limited sphere is concerned, the best we can do to begin with is to study all the transformations of substance by means of analogies, just as we study things in the outer world. Then we find something that modern science cannot readily acknowledge but that is nonetheless a truth, resulting indeed from modern science itself. It will be the task of our doctors to pursue these matters scientifically and then to show from the sense-perceptible empirical facts themselves that as a result of the action of the ptyalin and pepsin on the food the food is divested of every trace of its former condition in the outer world?

We take in food from the mineral kingdom — you may dispute the expression “food,” but I think we understand each other — we take in food from the mineral, plant, and animal kingdoms. What we take in as food belongs originally to the mineral, plant, and animal organizations. The substance most nearly akin to the human organization is, of course, the milk that the suckling baby receives from the mother. The child receives it as soon as it has left the human organization. The process enacted within the human organism during the absorption of nourishment is this: through the absorption of the food into the various glandular products, every trace of its origin is eliminated. It is really true to say that the human organization itself makes it possible to engage in the purely

natural scientific, inorganic mode of observation. In fact, human chyle comes nearest of all to the outer physical processes in the moment when it is passing from the intestines into the lymph and bloodstream. The human being finally obliterates the external properties that the chyle still possessed until this moment. He wants to have it as similar as possible to the inorganic organization. He needs it thus, and this again distinguishes him from the animal kingdom.

The anatomy and physiology of the animal kingdom reveal that the animal does not eliminate the nature of the substances introduced to its body to the same extent; the excretory products are different for the animal. The substances that pass into the body of the animal retain a greater resemblance to the outer organization, to the vegetable and animal organizations, than is the case with the human being. They proceed on into the bloodstream still in accordance with their external form and with their own inner lawfulness. The human organization has advanced so far that when the chyle passes through the intestinal wall, it has become as close as possible to the inorganic. The purely physical human being actually exists in the region where the chyle passes from the intestines into the heart-lung organization, if I may express myself in this way.

It is at this point that our way of looking at things first becomes heretical to orthodox natural science. The entire

heart-lung tract — the vascular system — is the means whereby the foods that have now become entirely inorganic so to speak, are led over into the realm of life. The human organization cannot exist without providing its own life. In a more encompassing sense, what happens here resembles the process occurring when the inorganic particles of protein, let us say, are transformed into organic; into living protein, when dead protein becomes living protein. Here again we do not need to enter into the question of the inner being of man but only into what is continually being said in physiology. Due to the shortness of time we cannot speak of the scientific theories about how the plant produces living protein, but in the human being it is the system of heart and lungs, with all that belongs to it, that is responsible for transformation of the protein into something living after the chyle has become as inorganic as possible.

We can therefore say that the system of heart and lungs is there so that the physical system may be drawn up into the etheric organization. The system of heart and lungs therefore brings about a vitalizing process whereby the inorganic is drawn into the organic, is drawn into the vital sphere through the process that takes place in the heart-lung system. (In the animal it is not quite the same, the process being less definite.) Now it would be absolutely impossible for this process to take place in our physical world if certain conditions were not fulfilled in the human organization. The

chyle's being drawn into, transformed into an etheric organization could not take place within the sphere of earthly lawfulness unless other factors were present. Angels would be able to perform this, but if they did then they would fly around having merely a mouth, an esophagus, and then finally a gastrointestinal system, which would then stop and disappear into the etheric. Thus such digestive tracts would float around and would be carried by invisible etheric angel-beings.

What I am describing here could not take place in the physical world at all. That would be impossible. The process is possible in the physical world only because the whole etheric system is drawn down, as it were, into the physical, is incorporated into the physical. This happens as a result of the absorption of oxygen in the breathing. Therefore man is not an angel but can walk around physically on the earth, can walk around because his angelic aspect is physicalized through the absorption of oxygen. The entire etheric organization is projected — but projected as something real — into the physical world; the whole is then fulfilled as a physical system; that which otherwise could be only of a purely super-sensible nature comes to expression as the system of heart and lungs. And so we begin to realize that just as carbon is the basis of the animal, plant, and human organizations (though in the human organization in a less solid way than in the plant) and “fixes” the physical

organization as such, so is oxygen related to the etheric organization in so far as this expresses itself in the physical domain.

Here we have the two substances of which the formed, the vitally formed protein is primarily composed. But this mode of observation can be applied equally well to the proteinaceous cell, the cell itself. We simply extend the kind of observation that is usually applied to the cell by substituting a macroscopic study for the microscopic study of the cell in the human being. We observe the processes that form the connection between the digestive tract and the heart-lung tract. We observe then in an inner sense, seeing the connection between them, perceiving how an etheric organization is drawn in and “fixed” into the physical as a result of the absorption of oxygen.

But you see, if this were all, we would have a being that existed in the physical world possessing merely a digestive organization and an organization of heart and lungs. Such a being would not yet be an ensouled being; the element of soul could occur only in the super-sensible, and it is still our task to show how what makes the human being a sentient being incorporates itself into his solid and fluid nature, permeating the solid and fluid organizations and making him a sentient being, a being of soul. Only when we are able to trace the ensouled aspect can we perceive man as an ensouled being. The entire organization in which oxygen plays a role is now

within the human being due to the fact that we bind the etheric organization into the physical body by oxygen.

The ensouled organization cannot come into being unless there is a direct point of attack, as it were, for the airy man, with a further possibility of access to the physical organization. Here we have something that lies very far indeed from modern ways of thinking. I have told you that oxygen takes hold of the etheric through the organization of heart and lungs; the astral makes its way into the organization of man through another system of organs. This astral nature, too, needs a physical system of organs. I am referring here to something that does not take its start from the physical organs but from the airy nature (not only the fluid nature) that is connected with these particular organs — that is to say, from the airy organization that is bound up with these solid organs. The astral-organic forces radiate out from this gaseous organization in the human organism. Indeed, the corresponding physical organ itself is first formed by this very radiation, on its backward course. To begin with, the gaseous organization radiates out, makes man into an ensouled organism, permeates all his organs with soul, and then streams back again by an indirect path, so that a physical organ comes into being and plays its part in the physical organization of the human being. This is the kidney system, which is regarded primarily as an organ of excretion. Its excretory functions, however, are secondary. I will return to

this later, for I have yet to speak of the relationship between the kidney excretions and the higher function of the kidneys. As physical organs the kidneys are excretory organs (they too, of course, have entered the sphere of vitality), but in addition to this, in their underlying airy nature, they are the radiating-organs for the astral organism which now permeates the airy nature and from there works directly into the fluids and the solids in the human organism.

The kidney system, therefore, is that which from an organic basis permeates us with sentient faculties, with qualities of soul and the like — in short it permeates us with an astral organism. Sense-perceptible, empirical science has a great deal to say about the functions of the kidneys, but if you penetrate what you can see and observe of these functions with a certain instinctive inner perception, you will be able to discover the relations between inner sentient experience and the functions of the kidneys — remembering always that the excretions are only secondary indications of that from which they have been excreted. What the kidneys excrete arises through the function of the kidneys. In so far as the functions of the kidneys underlie the sentient system, this is expressed even in the various kinds of excretions.

If you want to extend scientific knowledge in this field, I recommend that you do experiments with a more sensitive individual and try to find out the essential change that takes

place in the renal excretions when he is thinking in a cold or in a hot room. Even purely empirical tests like this, suitably varied in the usual scientific way, will provide results. If you make absolutely systematic investigations, you will discover what a difference there is in the renal excretions of a person thinking either in a cold or a warm room. You can also do the experiment by asking someone to think objectively and putting a warm cloth around his head. (The conditions for the experiment must of course be prepared in an orderly way.) Then examine the renal excretions, and examine them again when he is thinking about the same thing and cold compresses have been applied to his feet. You can conduct experiments that are entirely sense-perceptible and empirical that will provide you with evidence.

The reason that there is so little concern with such inquiries today is that people have an aversion to entering into these matters. In embryological research into cell division, the allantois and the amnion are not studied carefully. These discarded organs have been investigated, but to understand the whole process of human development the accessory organs in embryonic development must be studied much more exactly than the processes that arise from the division of the germ cell itself. Our underlying task here, therefore, is to establish starting points for rational research. This is of the greatest significance, for only in this way will we reach the point of having insight into the human being so that we have

before us not a visible but an invisible giant cell.

Today we do not describe the cell as we describe the human being, because microscopy does not lead so far. The curious thing is that if one studies the realm of the microscopic with the methods I am describing here, wonderful things come to light, for instance the results achieved by the Hertwig school. The cell can be investigated up to a certain point with the microscope, but then there is no possibility of further research into the more complicated life processes. Ordinary, sense-oriented empiricism comes to a standstill here, but with spiritual science you can follow the facts further. You now look at the human being in his totality, and the tiny point represented by the cell grows out, as it were, into the whole being of man.

From this you can proceed to learn how the purely physical organization is in every way connected with the structure of the carbon, just as the transition to the etheric organization is connected with the structure of oxygen. If you now make exact investigations into the kidney system, you will find a similar connection with nitrogen. Thus you have to study carbon, oxygen, nitrogen, and in order to trace all the roles played by nitrogen in the astral permeation of the organism, you need only follow, through a series of very precise experiments, the metamorphoses of uric acid and urea. Precise study of the secondary excretions of uric acid and

urea will provide definite evidence that the astral permeation of the human being proceeds from the kidney system. This will also be shown by other things connected with the activity of the kidneys, even to the point where pathological conditions play a role, for example if we find blood corpuscles in the urine. The kidney system radiates the astral organization into the human organism. Here we must not think of the physical organization but of the airy organization that is bound up with it. If nitrogen did not play a part, the whole process would remain in the domain of the super-sensible, just as we would be merely etheric beings if oxygen were not to play its part. The outcome of the nitrogen process is that the human being can live on earth as an earthly being. Nitrogen is the third element connected with this.

There is thus a continual need to widen the methods adopted in anatomy and physiology by applying the principles of spiritual science. This is not in any sense a matter of fantasy. You will see that this is so when you receive your first results. If you study the kidney system and do your experiments as accurately as you possibly can, examining the urea and uric acid excretions under different astral conditions, step by step you will find confirmation of what I have said. Only in this way will you be able to penetrate the constitution of the human organism.

We can therefore say that everything entering the human

being through the absorption of food is carried into the astral organism by the kidney system. There still remains the ego organization. All this is received into the ego organization primarily as a result of the working of the liver-gall system. The warmth structure and the warmth structure in the system of liver and gall radiate out in such a way that the human being is permeated with the ego organization, and this is bound up with the differentiation of warmth in the organism as a whole.

Now it is quite possible to adapt your methods of investigation as precisely as possible to what I have said. Take certain lower animals where there is no trace at all of an ego organization in the psychological sense. With these you will not find a developed liver, and still less any bile. These things develop in the phylogeny of the animal kingdom only when the ego organization appears. The development of liver and gall runs absolutely parallel with the degree to which the ego organization unfolds in a living being. Here, too, you have an indication for a series of physiological investigations in connection with the human being, only of course they must cover the different periods of human life. You will gradually discover the connection of the ego organization to the functions of the liver in the human being.

You need only observe particular pathological conditions that are lethal — certain childhood illnesses, for example — in

order to find out how certain psychological phenomena, tending not toward the life of feeling but toward the ego, are connected with the secretion of bile. This might form the basis of an exceedingly fruitful series of investigations that can be derived to some extent out of what our sense-oriented, empirical science provides. You will see that the ego organization is connected with hydrogen in the same way that the physical organization is connected with carbon, the etheric organization with oxygen, and the astral organization with nitrogen. You will be able to relate all the differentiations of warmth — I can only hint at this — to the specific function carried out in the human organism by hydrogen, in combination with other substances, of course. And so, as we ascend from the sense-perceptible to the super-sensible and make this super-sensible a concrete experience by recognizing its physical expressions, we come to the point of being able to conceive the whole human being as a highly complicated cell, a cell that is permeated with soul and spirit.

It is really only a matter of taking the trouble to examine and develop the marvelous results achieved by natural science and not simply leaving them where they are. My understanding and practical experience of life convince me that if you will set yourselves to an exhaustive study of the results of the most orthodox empirical science, if you will relate the most approachable with the most remote and really study the connections between them, you will constantly be

led to what I am telling you here. I am also convinced that the so-called “occultists” of the modern type will not help you in the least. What will be of far more help is a genuine examination of the empirical data offered by orthodox natural science. Natural science itself leads you to recognize truths that can be perceived only supersensibly but that indicate, nevertheless, that the empirical data must be followed up in this or that direction. You yourselves can certainly discover the methods; they will be imposed by the facts before you. There is no need to complain that such guiding principles create prejudice or that they influence by suggestion. The conclusions arise out of the things themselves, but the facts and conditions prove to be highly complicated, and if further progress is to be made, all that has been learned in this way about the human being must now be investigated in connection with the outer world.

I want you now to follow me in a brief train of thought. I am giving it merely by way of example, but it will show you the path that must be followed. Take the annual plant that grows out of the earth in spring and passes through its yearly cycle. Now relate these phenomena that you observe in the annual plant with other things you can observe — above all the custom of peasants who, when they want to keep their potatoes through the winter, dig pits of a certain depth and put the potatoes into them so that they may keep for the following year. If the potatoes were kept in an ordinary open cellar, they

would not remain fit to eat. Investigations have proven that what originates from the interplay between the sunshine and the earth is contained within the earth during the subsequent winter months. Warmth conditions and light conditions are at play dynamically under the surface of the earth during the winter, so that in winter the aftereffects of summer are actually contained within the earth. Summer surrounds us outside the earth's surface. In winter, the aftereffects of summer work under the earth's surface. And the consequence is that the plant, growing out of the earth in its yearly cycle, is impelled to grow, first and foremost, by the forces that have been poured into the earth by the sun of the previous year, for the plant derives its dynamic force from the soil. (I have to make rather large leaps, of course, but these things can all be verified easily through empirical observations.) This dynamic force that is drawn out of the soil can be traced up into the ovary and on into the developing seed. So you see, we can arrive at a botany that really corresponds to the whole physiological process only if we do not confine ourselves to the dynamic forces of warmth and light and the light conditions during the year when the plant is growing. We must rather take our start from the root, and so from the dynamic forces of light and warmth of at least the year before. These forces can be traced right up into the ovary, so that in the ovary we have something that really is brought into being by the forces of the previous year.

Now examine the leaves of a plant, and, still more, the petals. You will find that in the leaves there is a compromise between the dynamic forces of the previous year and those of the present year. The leaves contain elements that are thrust out from the earth and those that work in from the environment. It is in the petals that the forces of the present year are represented in their purest form. The coloring and so forth of the petals represents nothing that is old — it all comes from the present year.

You cannot follow the processes in an annual plant if you take only the immediate conditions into consideration. Examine the structural conditions that follow one another in two consecutive years. (What the sun imparts to the earth, however, has a much longer life.) Do a series of experiments concerning the way in which the plants continue to be relished by creatures such as the grub of the cockchafer, and you will see that what you first thought to be an element of the plant belonging to the present year must be related to the sun forces of the previous year. You know what a prolonged larval stage the cockchafer undergoes, devouring the plant the whole time.

These matters must be the subject of exact research; only the guiding principles can be given from the spiritual world. Research will show that the structure of the substances found in the petals and leaves, for instance, is of an essentially

different character from the structure of the substances found in the root or even the seed itself. There is a tremendous difference, and this leads to the distinction between a tea prepared from the petals or leaves of plants and an extract of substances found in roots or seeds. You will find that this difference is the basis for the other differences, so that the effect of a tea prepared from petals or leaves upon the human digestive system is quite different from that of an extract prepared from roots or seeds. In this way you relate the organization of the human being to the surrounding world, and everything you discover can be verified through purely physical, sense-perceptible methods. You will find, for instance, that disturbances in the transition of the chyle into the etheric organization, as it is brought about by the system of heart and lungs, will be influenced by the leaves; everything connected with the digestive tract is influenced essentially by a tea derived from petals. An extract of roots and seeds influences the wider activity that works on into the vascular system and even into the nervous system. In this way you will discover rationally the connection between what is going on within the human organism and the substances from which our store of remedies may be derived.

In the next lecture I will have to continue this subject, showing you that there is an inner connection between the different structures of the plants and the human nerve-sense organization and the organization of his digestive tract.

Fundamentals of Anthroposophical Medicine 3

As we begin to view the human organism increasingly in the way that I unfortunately have been able to indicate only very briefly, many things become terribly important concerning judgment of the human being in health and disease, things not otherwise appreciated in their full significance. Very little attention is paid nowadays to what I have called in my book, [*Riddles of the Soul*](#), the threefold nature of the physical being of man. Yet a proper assessment of this threefold nature of the physical human being is of the greatest significance for pathology and therapy.

In accordance with this threefold nature of the physical human being, the nerve-sense system is to be pictured as localized mainly in the head, though of course this head organization really extends over the entire human being. The nervous and sensory functions of the skin, and also those within the human organization, must be included. However, we cannot arrive at a well-founded conception of the modes of activity in the human organism unless we differentiate, theoretically to begin with, the nerve-sense system from the rest of the organization as a whole.

The second system in the human being, the rhythmic system, includes in the functional sense everything that is subject to rhythm — primarily, therefore, the breathing system and its connection with the system of blood circulation. In the

wider sense, too, there are rhythms that are of essential significance to the human being, although these can be disrupted in many ways; I am referring to the rhythms of day and night, of sleeping and waking, as well as everything else rhythmical, the rhythmic assimilation of food and so on. These latter rhythms are constantly disrupted by the human being, but the consequences of such disturbances have to be brought into equilibrium by certain regulative factors found in the organism. As a second member of the human organization, then, we have the rhythmic human being, and, as a third member, the metabolic organism, in which I include the limb organism, because the functional processes that arise as a result of the movements of the limbs are inwardly connected with the metabolism in general.

When we consider this threefold nature of the human being, we find that the organization described in the last lecture as being mainly connected with the ego has a definite relationship to the metabolic human being in so far as the metabolic human being extends over the whole being of man. The rhythmic human being has a definite relationship to what I designated this morning as the system of heart and lungs. The functions of the kidneys, the forces that proceed from what I called the kidney system, are related to the astral organization of the human being. In short, in his threefold physical nature the human being is related to the individual members of his super-sensible being and thereby also to the

individual organ systems, as I showed this morning. These relationships, however, must be studied in more precise detail if they are to prove of practical value for understanding the human being in health and disease. Here we will do best to begin with a consideration of the rhythmic human being, the rhythmic organization of man.

This rhythmic organization of the human being is very frequently misunderstood in relation to one of its definite characteristics, namely the ratio that is established between the rhythm of the blood circulation and the rhythm of the breath. In the adult human being, this ratio is approximately four to one. This, of course, is only the average, approximate ratio, and its variations in individuals are an expression of the measure of health and disease in the human organism. What is revealed in this rhythmic human being as a ratio of four to one continues in the entire human being. We again have a ratio of four to one in the relationship of the development of the metabolic human being (including the limbs — for simplicity's sake I say “metabolic”) to the nerve-sense human being. This can be verified by empirical data, as is the case with other things mentioned in these lectures. Indeed, so far-reaching is this ratio that we may say that all the processes connected with human metabolism take their course four times faster than the work done by the nerve-sense organization for the growth of the human being.

The second teeth that appear in the child are an expression of what is taking place in the human metabolic system as a result of its coming continually into contact with the nerve-sense system. Everything that flows from the metabolic system toward the middle, rhythmic system, set against that which flows from the nerve-sense system into the rhythmic system, takes place in a tempo of four to one. To speak precisely, we may take the breathing system to be the rhythmic continuation of the nerve-sense system and the circulatory system to be the rhythmic continuation of the metabolic system. We can say that the metabolic system sends its effects, as it were, up into the rhythmic human being. In other words, the third member of the human organization works into the second, and this expresses itself in daily life through the rhythm of the blood circulation. The nerve-sense system sends its effects into the breathing system and this is expressed through the rhythm of the breath. Thus in observing the ratio of four to one in the rhythmic human being — for there are some seventy pulse beats to every eighteen breaths — we see the encounter between the nerve-sense system and the metabolic system. This can be observed in any given life period of the human being by studying the ratio of everything that proceeds from the human processes of metabolism in their impact on everything that proceeds from the head system, the nerve-sense system. This is a ratio of exceptional significance.

We may therefore say that in the child's second teeth there is an upward thrust of the metabolic system into the head, but in such a way that in this meeting of the metabolic system with the nerve-sense system the latter gets the upper hand to begin with. The considerations that follow will make this clear to you. The second dentition at about the age of seven represents a contact between the metabolic system and the nerve-sense system, but the effect of the nerve-sense system predominates. The outcome of this collision between what proceeds from the nerve sense system and the metabolic system is the development of the second teeth.

Again, in the period when the human being reaches puberty, a new collision occurs between the metabolic system and the nerve-sense system, but this time the metabolic system predominates. This is expressed in the male sex, for example, by the change in the voice itself, which up to this period of life has essentially been a form of expression for the nerve-sense system. The metabolic system pulses upward and makes the voice deeper.

We can understand these effects by observing the extent to which they encompass the radiations in the human organism that originate in the kidney system and liver-gall system on the one hand, and in the head and skin organizations on the other (everything that therefore forms the nerve-sense system). This is an extremely interesting ratio, one that leads

us into the deepest depths of the human organization. We can picture the building and molding of the organism in this way: radiations proceed from the side of the kidney-liver systems, and they are met by the plastic, formative forces proceeding from the head system. If we were to try to draw what takes place schematically, we would have to do it in this way (sketching). The radiations from the kidney-liver system (naturally they do not stream only upward but to all sides) have the tendency to work in a semi-radial direction, but they are thwarted everywhere by the plastic, formative forces that proceed from the head system. We can thus understand the form of the lungs by thinking of them as shaped sculpturally by the liver-kidney systems which are met by the rounding-off forces proceeding from the head system. The entire structure comes into being in this way: radial formation from the kidney-liver systems, and then the rounding off of the radial formation by the forces proceeding from the head system.

In this way we arrive at a fact of the greatest importance and one that can be confirmed empirically in every detail. In the process of man's development, in human growth, two force components are at work: (1) the force components that proceed from the liver-kidney systems and (2) the force components that proceed from the nerve-sense system, rounding off the forms and shaping their surfaces. These two components collide with each other, but not with the same rhythm. They collide with each other in varying rhythms.

Everything that proceeds from the liver-kidney systems has the rhythm of the metabolic human being. Everything that proceeds from the head system has the rhythm of the nerve-sense human being. This means that when the human organization is ready for the emergence of the second teeth, at about the seventh year of life, the metabolic organization, with all that proceeds from the kidney-liver systems (which is met by the rhythm of the heart), is subject to a rhythm that is related to the other rhythm, proceeding from the head, in the ratio of four to one. Thus not until the twenty-eighth year of life is man's head organization developed to the point reached by the metabolic organization at the age of seven. This means that the plastic principle in the human being develops more slowly than the radiating principle, the non-plastic principle. In effect it develops four times as slowly. This is connected with the fact that at the end of the seventh year of life, regarding what proceeds from our metabolism, we have developed to the point reached by growth in general (in so far as this is subject to the nerve-sense system) only at the twenty-eighth year.

Man is thus a very complicated being. Two streams of movement subject to totally different rhythms are at work in him. And so we can say that the emergence of the second teeth, for example, is due in the first place to the fact that everything connected with the metabolism comes into contact with the slower but more intensive plastic principle, so that in

the teeth the plastic element predominates. At the time of puberty, there is a predominance of the metabolic element; the plastic element withdraws more into the background, which is expressed in the male sex by the familiar phenomenon of the deepened voice.

Many other things in the human organization are connected with this: for instance the fact that the greatest possibility of illness fundamentally occurs during the period of life before the arrival of the second teeth — the first seven years of life. When the second teeth appear, the inner tendency of the human being to disease ceases to a great extent. The system of education that it has been our task to build up* has compelled me to make a detailed study of this matter, for it is impossible to found a rational system of education without these principles concerning the human being in health and disease. In his inner being, the human being is in the healthiest state during the second period of life, from the change of teeth to puberty. After puberty, a period begins when it is again easy for him to fall prey to illness.

Referring to the Waldorf education movement, founded in Stuttgart, Germany in 1919, and now a worldwide independent educational movement.

The tendency to illness in the first period of life until the change of teeth is quite different from the tendency to illness

after puberty. These two possibilities of falling ill are as different, you could say, as the second dentition is from the change in the male voice. During the first period of life, up to the change of teeth, everything proceeds from, the child's nerve-sense organization to the outermost periphery of the human organism. Everything proceeds from the nerve-sense organization. The nerve-sense organization, which predominates until the change of teeth, is the origin for pathological phenomena in the first period of human life. You will be able to form a general conception of these pathological phenomena if you say to yourselves: it is quite evident here that the radiations from the kidney-liver systems are rounded off, sculpturally rounded off by the plastic principle working from the nerve-sense human being. This plastic element is the main field of action of everything that I have described as being connected with the ego organization and the astral organization of the human being.

Now it may seem strange that I previously spoke of the ego organization as proceeding from the liver-gall system and the astral organization as proceeding from the kidney system, and that I now say: everything connected with the ego and astral organizations emanates from the head organization. We shall never understand the human organization with all its tremendous complexities if we say baldly that the ego organization proceeds from the liver-gall system and the astral organization from the liver-kidney systems. We must

realize that in the first period of life, up to the change of teeth, these radiations from the liver system and the kidney system are rounded off by the nerve-sense system. This rounding-off process is the essential thing. Strange to say, the forces supplied to the ego and astral organizations by the liver-gall system and the kidney system reveal themselves as a counterradiation, not in their direct course from below upward but from above downward. Thus we have to conceive of the child's organization as follows: the astral nature radiates from the kidney system and the ego organization from the liver system, but these radiations have no direct significance. Both the liver system and the kidney system are, as it were, reflected back from the head system, and only this reflection into the organism is the active principle.

How, then, are we to think of the astral organization in the child? We must think of the workings of the kidneys as being radiated back from the head system. What of the ego-organization in the child? The workings of the liver-gall system are also radiated back from the head system. The physical system proper and the etheric system work from below upward, the physical organization having its point of departure in the digestive system and the etheric organization in the heart-lung system. These organizations work from below upward and the others from above downward during the first epoch of human life, and the radiation from below upward works into the radiation working from above downward in a

rhythm whose ratio is four to one.

It is a pity that the indications here have to be so brief, but they really are the key to the processes of childhood. If you want to study the most typical childhood diseases, you may divide them into two classes. On the one side you will find that the forces streaming from below upward meet the forces streaming from above downward with a rhythm of four to one, but there is no coordination. If it is the upward streaming forces with their rhythm of four that refuse to incorporate themselves into the human individuality, while the inherited rhythm of the head organization is in order, then we find all those diseases in the child's organism that are diseases of the metabolism, arising from a kind of damming-up against the nerve-sense system in which the metabolism is not quite able to adapt itself to what radiates out from the nerve-sense system. Then we get, for example, that strange disease in children that leads to the formation of a kind of purulent blood. All other children's diseases that may be described as diseases of the metabolism arise in this way.

On the other hand, suppose the metabolic organism is able to adapt itself to the individuality of the child and that the hygienic conditions are such that the child is properly adapted to its environment — if, for example, we feed him in a regular way. If however, as a result of some inherited tendency, the nerve-sense system working from above downward does not

harmonize properly with the radiations from the liver-gall system and the kidney system, diseases accompanied by cramp-like conditions arise, the cause of them being that the ego and astral organizations are not descending properly into the physical and etheric organizations.

Childhood diseases, therefore, arise from two opposite sides. Nevertheless, it is always true that we can understand these diseases of the child's organism only by directing our attention to the head and nerve-sense organization. The metabolism in the child must be shaped so that it is brought into harmony not only with outer conditions but also with the nerve-sense organization. In the first period of human life, up to the change of teeth, a practical and fundamental knowledge of the human nerve-sense system is necessary and we must be aware that despite the fact that everything in the child radiates from the head organization, it is nonetheless possible for the metabolism to press too far if the metabolism is normal while the head organization, through hereditary circumstances, is too weak.

Now when the second period of life sets in, from the change of teeth to puberty, it is the rhythmic organism from which everything radiates. The astral and etheric organizations of the human being are essentially active here. Into the astral and etheric organizations between the change of teeth and puberty streams everything that arises from the functions of

the breathing and circulatory systems. The reason that the human organization itself can offer the human being the greatest possibility of health during this period of life is that these two systems can be regulated from outside. The health of school children of this age is very dependent on hygienic and sanitary conditions, whereas during the first period of life external conditions cannot affect health in the same way.

Out of a real knowledge of the human being we become aware of the tremendous responsibility resting upon us with regard to the medical aspect of education. We become aware that we may have dealt wrongly with the causes of disease that make their appearance between the seventh and fourteenth years of life. During the elementary school years, the human being is not really dependent upon himself; he is adapting himself to his environment in his breathing, by inhaling the air and by means of all that arises in his circulation through metabolism. Metabolism is connected with the limb organization. If children are given the wrong kind of gymnastics or are allowed to move wrongly, outer causes of disease are cultivated. Education during the elementary school age should be based upon these principles, which should be taken into strictest account in all our teaching.

This is not done in our time, as you can conclude from the following. Experimental psychology — as it is called — has a certain significance which I well appreciate, but among other

transgressions it makes the mistake of speaking like this: such and such a lesson causes certain symptoms of fatigue in the child; such and such a lesson gives rise to different symptoms of fatigue, and so forth. And according to the conditions of fatigue thus ascertained, conclusions are drawn as to the right kind of curriculum. Yes — but, you see, the question is put incorrectly, it must be posed in a different way. From the seventh to the fourteenth years, thank God, all that really concerns us is the rhythmic human being, which does not get tired. If it were to tire, the heart, for instance, could not continue to beat during sleep throughout the whole of earthly life. Nor does the action of breathing get tired. So when it is said that we must pay attention to whether more or less fatigue arises in an experiment, the conclusion should be that if there is fatigue at all, something is amiss. Between the seventh and fourteenth years our ideal must be to work not primarily upon the head system but upon the rhythmic system. We do this when we form our education artistically. Then we are working upon the rhythmic system, and we will see that it will be quite possible to correct all the conditions of fatigue arising from false methods of teaching that are being researched today. Excessive strain on the memory, for example, will always exert an influence on the breathing action, even if only in a mild way, and the results will appear only in later life.

At puberty and afterward, the opposite is the case. Causes

of disease may then arise again in the human being himself, particularly in his metabolic-limb organism. This is because the food substances assert their own inherent laws, and then we are faced with an overpowering effect of the physical and etheric organisms in relation to the human organization.

In the organism of the very young child, therefore, we are essentially concerned with the ego organization and the astral organization working by way of the nerve-sense system; in the period between the change of teeth and puberty we are concerned mainly with the activity of the astral and etheric organizations, but now arising from the rhythmic system; after puberty we have to do with the predominance of the physical and etheric organizations arising from the metabolic-limb system. We can see how pathology confirms this absolutely. I need only call your attention to certain typical diseases of the female sex; actual metabolic diseases arise from within the human being after puberty, so that we can say that the metabolism predominates. The products of metabolism get the better of the nerve-sense organization instead of duly harmonizing with its activities. In childhood diseases before the change of teeth there is an inappropriate predominance of the nerve-sense system. The healthy period lies between the change of teeth and puberty; and after puberty the metabolic-limb organism, with its quicker rhythm, begins to predominate. This quicker rhythm then expresses itself in everything connected with deposits of metabolism which form because

the plastic organization from the side of the head does not meet them properly. The result of this is that the products of metabolism invariably get the upper hand.

I am very sorry that I can speak of these things only in a cursory, aphoristic way, but my aim is to indicate at least the goal of such thoughts, which is to see that the functional aspect in the human being is primary, and that formations and deformations must basically be regarded as proceeding from this functional aspect. This is expressed outwardly in the fact that up to the seventh year of the child's life the plastic, shaping forces work with particular strength. The plastic structure of the organs is developed by the nerve-sense system to such a point that the plastic molding of teeth, for example, up to the time of the second dentition, is an activity that is not repeated. In contrast to this, the permeation of the organism by the metabolism enters an entirely new phase when — as happens at puberty — a portion of the metabolism is given over to the sexual organs. This leads to a thorough change in the metabolism.

It is terribly important to make a methodical and detailed study of the matters I have indicated to you. The results thus obtained can then be coordinated in a truly scientific sense if they are brought into line with what I told you at the end of the last lecture, if they are related to the working of the cosmos outside the human being.

How, then, can we approach therapeutically everything that radiates out in such a complicated way from the kidney system, from the liver system? We simply need to call forth changes by working on it from outside. We can approach it if we hold fast to what can be observed in the plant — I mean, the contrast between the principle of growth that is derived from the preceding year or years, and those principles of growth that stem from the immediate present. Let us return once more to the plant. In the root and up to the ovary and seed-forming process we have what is old in the plant, belonging to the previous year. In everything that develops around the petals we have what belongs to the present. And in the formation of the green leaves the past and the present are working together. Past and present, as two component factors, have united to produce the leaves.

Now everything in nature is interrelated, just as everything is interrelated in the human organism, in the complex way I have described. The point is to understand the relationships. Everything in nature is related reciprocally, and by a simpler classification of these relationships revealed in the plant we come to the following.

In the terminology of an older, more instinctive medicine (which we by no means want to renew; I only mention it so that we can understand one another better), we find constant mention of the sulfurous or the phosphoric. These sulfurous or

phosphoric elements exist in those parts of the plant that represent the forces of the present year — in the blossom, not in the ovary and stigma. When you therefore make a tea from these particular organs of the plant (thereby extracting also what is minerally active in them) you obtain the phosphoric or sulfurous aspect. It is totally incorrect to imagine that the doctors of ancient times thought of phosphorus and sulfur in the sense of modern chemistry. They conceived of them in the way I have indicated. According to ancient medicine, a tea prepared from the petals of the red poppy, for instance, would have been “phosphoric” or “sulfurous.” On the other hand, in a preparation derived from a treatment of a plant’s leaves (naturally you get totally different results depending on whether you use pine needles, for example, or cabbage leaves for your decoction) we get the mercurial element, as it was called in ancient terminology. This mercurial element is not the same as what is also called quicksilver. And everything that is connected with the root, the stem, and the seed was for ancient medicine connected with the salt-like element.

I am saying these things only for the sake of clarity, for with our modern natural scientific knowledge we cannot go back to older conceptions. A series of investigations should be made to show, let us say, the effects of an extract prepared from the roots of some plant on the head organization, and hence on certain diseases common to childhood.

A highly significant regulating principle will come to light if we investigate the effects of substances drawn from the roots and seeds of plants on the organization of the child before the change of teeth. For illnesses of the kind that are acquired from outside — and, fundamentally speaking, all illnesses between the change of teeth and puberty are of this kind — we obtain remedies, or at least preparations that have an effect upon such illnesses, from leaves and everything akin to the nature of leaves in the plant. I am speaking in the old sense here of the mercurial element, which we meet in a stronger form in mercury, in quicksilver itself, though it is not identical with this substance. The fact that mercury is a specific remedy for externally acquired sexual diseases is connected with this.

What manifests in sexual diseases is really nothing but the intensification of illnesses that may arise in an extremely mild form in the second period of life. The sexual diseases themselves are only a more potent form of what can be acquired externally from age seven to fourteen, until puberty. Before puberty they do not develop into sexual diseases proper, because the human being is not yet sexually mature. If it were otherwise, a great many diseases would attack the sexual organs. Those who can really observe this transition from the eleventh, twelfth, and thirteenth years, on into the fourteenth, fifteenth and sixteenth years, will see that symptoms that arise in earlier life in quite another way

express themselves at this age as abnormalities of the sexual life.

Then there are diseases that have their origin primarily in the metabolism, in so far as the metabolism is bound up with the physical and etheric systems of the human being. These diseases must be considered in connection with the workings of the petal nature of plants.

The cursory way of dealing with these matters that is unfortunately necessary here may make a great deal appear fantastic. Everything can nevertheless be verified in detail. The obstacles that make these things so unapproachable to orthodox medicine are really due to the fact that, to begin with, they all seem beyond the range of verification. This is because we have to reckon with complicated phenomena in the human organism such as the particularly striking example that I spoke about at the beginning of this lecture. I described it in such a way that it appeared irreconcilable with what I said yesterday. This confusion clears up, however, when we see that what proceeds from the liver-kidney organization appears first in its counterreactions, and in this sense it represents something quite essential for the ego organism and astral organism of the human being. In this case it is especially evident, but in a similar way there is a direct cooperation and counterreaction between the rhythms of the blood circulation and of the breathing in man's middle system. Here, too, many

an influence that proceeds from the rhythm of the blood must first be looked for in the beat of the breathing rhythm, and vice versa.

Now connect this with the fact that the human organization, for example, really lives in the inner warmth-man, as I said this morning, and that this warmth-man then permeates the airy, the gaseous man. In the forces proceeding from the ego and astral organisms, we then have seen physically something that is working primarily from the warmth organization and the airy, gaseous organization. This is what we have to see in the organism of the very young child. We must see the cause of childhood diseases by studying the warmth and airy organizations in the human being. The effects that appear if we approach the warmth and airy organizations with preparations derived from roots and seeds are caused by the fact that two polar ways of working collide with each other, the one stimulating the other. Substances arising from the seed or root organizations and introduced into the organism stimulate everything that emerges from the warmth organization and the airy organization of the human being.

Through this I merely wished to indicate to you that in the influences working from above downward, so to speak, we can discern in the human being, from the very outset, a warmth-air vibration that is strongest in childhood, although in

reality it is not a vibration but an organic structure taking its course in time. What goes from below upward in the physical-etheric organism is the solid and fluid organization of the human being. These two are in mutual interaction, inasmuch as the fluid and gaseous organizations permeate one another in the middle, bringing forth an intermediate phase of the states of aggregation by their mutual penetration, just as there exists in the human organism the well-known intermediate stage between the solid and the fluid. So likewise in the living and sentient organisms we must look for an intermediate phase between the fluid and the gaseous, and again a phase between the gaseous and the element of warmth.

Please note that everything I am expressing here in a physiological sense has a significance for pathology and therapy. When we look into the human being who is organized in such a complex way, we find that one system of organs is continually pouring its influences into another system of organs. If you now study the whole organic action expressed in one of the sense organs, in the ear, for example, you will find the following: ego organization, astral organization, etheric and physical organizations are all working together in a certain way so that the metabolism permeates the nerve-sense being; this is then permeated by rhythm through the processes of breathing, in so far as they work into the organ of hearing; it is permeated by rhythm and organization through the blood rhythm, in so far as this

penetrates the organ of hearing. Everything that I have thus tried to make transparent for you in these ways, threefold and fourfold (in the three members of the human being and in the four organizations that I have explained) — all this finds expression in definite relationships in every single organ. And in the long run, everything in the human being is in metamorphosis.

For instance, consider what appears normal in the region of the ear — why do we call it normal? Because it appears precisely as it does in order that the human being can come into existence, can come into existence as he lives and moves on earth. There is no other reason for us to call it normal. But consider now the special relationships that work in shaping the ear by virtue of the ear's position, notably by virtue of the fact that the ear is at the periphery of the organism. Suppose that these relationships were working in such a way that a similar relationship arose by metamorphosis at some other place within the organism, a similar reciprocal relationship to all these members. Instead of the reciprocal relationship that is appropriate to that place within the body, something incorporates itself into this place that wants to become an ear. (Forgive this very sketchy way of hinting at the facts. I cannot express what I want to say in any other way, as I am obliged to say it in the briefest outline.) For instance, this may incorporate itself in the region of the pylorus, in place of what should arise there. In a pathological

metamorphosis of this kind we have to see the origin of tumorous formations. In fact, all tumorous formations up to carcinoma are really displaced attempts at the formation of sense organs. If you penetrate the human organism in the right way regarding such a pathological formation, you will find what part is played in the child's organization — even the embryonic organization — by the organisms of warmth and air in order to bring these sense organs into being. These organs can indeed be brought into being in the right way only through the organisms of warmth and air encountering the solid and fluid organisms, which results in a formation composed of both factors. This means that it is necessary for us to look into this relationship existing between the physical organism (in so far as this expresses itself in the metabolism, for example) and the formative, plastic organism (in so far as this expresses itself in the nerve-sense system). We must see, so to speak, how the metabolic organism radiates out that which carries the substance in a radial way, and how the substance is plastically molded in the organs by what the nerve-sense system carries to meet it.

Bearing this in mind, we shall learn to understand in what way we can really approach a tumor formation. We can only approach a tumor formation by saying that there is a false relationship between the physical-etheric organism on the one side, in so far as it expresses itself in metabolism, and the ego organism and astral organism on the other side, in so far as

they express themselves in the warmth and airy organisms respectively. Ultimately, therefore, we have above all to deal with the relationship of the metabolism to the warmth organization in the human being, and in the case of an internal tumor — although it is also possible with an external tumor — The best treatment is to envelop the tumor with a mantle of warmth.(I shall speak of these things tomorrow when we come to consider therapy.) We must succeed in enveloping the tumor with a mantle of warmth. This brings about a radical change in the whole organization. If we succeed in surrounding the tumor with a mantle of warmth, then — speaking primitively — we shall also succeed in dissolving it. This can actually be achieved by the proper use of certain remedies that have probably been suggested to you by our physicians, which are then injected into the human organism. We may be sure that in every case a preparation of viscum (mistletoe), applied in the way we advise around the abnormal organ (for instance around the carcinomatous growth) will generate a mantle of warmth, but we must first have ascertained its specific effect upon this or that system of organs. We cannot, of course, apply exactly the same preparation to carcinoma of the breast as to carcinoma of the uterus or of the pylorus. One must study the path taken by what is produced by the injection, but you will achieve nothing unless you bring about a real reaction. This reaction comes to expression as a state of feverishness. The injection must be followed by a feverish condition. You can at once expect

failure if you do not succeed in evoking a condition of feverishness.

I wanted to lead you to this principle so that you could see that these things depend upon a ratio; but the ratio is merely a regulating principle. You will see that these regulating principles can be verified, as all such facts are verified by the methods of modern medicine. There is no question of asking you to accept these things before they have been verified, but anyone who really looks into these things today can make remarkable discoveries.

Although this brief exposition may at first be somewhat confusing, everything will become clear to you if you go into the subject deeply. Everything that I have presented to you today can be verified in a remarkable way if only you take the proper facts that are reported in the literature. These things are reported somewhere, and you need only connect them then with the picture presented today. This is particularly the case if you bring this into connection with something else, with the many comments found in the literature that one can only reach a certain point in these matters and then go no further. Thus you will find confirmation from two sides in existing medicine for what I have suggested sketchily today.

Tomorrow I will allow myself to speak about therapeutic matters, and then things will be clarified further that may not

be clear to you today because of the sketchy method of presentation.

Fundamentals of Anthroposophical Medicine 3

In these lectures we are naturally able to present only a few indications as to a method of approach to therapeutic issues, as revealed by spiritual scientific study. The short time at our disposal makes it impossible to enter into details. My own opinion, however, is that at the beginning of the work that it is spiritual science's aim to carry through in the domain of medicine, the most important thing is to make our viewpoint quite clear. This viewpoint has been carefully applied in certain specific details in the preparation of our remedies. It may not be immediately evident how this more general viewpoint can be extended to specific cases, but in describing certain principles of method today I will do my best to suggest thoughts that may help in this direction also.

The human organism in its states of health and disease — or, to say it better for our purpose today, in its states of being healthy and becoming healthy — cannot really be understood unless the so-called normal functions are regarded as being, fundamentally, simply metamorphoses of the functions that must be called into action in order to combat pathological conditions. We must always take into account the fact that the processes within the human organism are different from those unfolding in the outer world. To begin with, we must remember that everything the human being takes into his digestive tract from outside in the plant world, for instance, must be worked through so that man can further enliven it.

The process of vitalization, the enlivening, must be an activity of the human being himself; indeed the human organism could not exist without undertaking this enlivening.

We must be clear from the outset that the plant covering of our earth is passing through the opposite process from that which takes its course within the human being. When we speak of a process of vitalization along the path taken by human nourishment through the organism, we have to do with an ascending curve, a curve ascending from the essentially inorganic, as it were, to the state of vitalization — to the living state — and from there to a condition that can be the bearer of sensation and finally to a condition that can be the bearer of the ego organization. When we speak of working through our nourishment up to the point where it is received into the astral organism, to the point where it is received into that which bears the world of sensation, we are speaking about a process of increasing enlivening of what is taken in through nourishment.

The reverse occurs in the plant. In all the peripheral organs of the plant, that is to say in the development of the plant from below upward, in the production of the leaf and blossom processes, we have a process of devitalization, fundamentally speaking. The vitality is preserved for the seed alone. If we are speaking about the initial plant — for the seed in the ovary really represents the next plant that will come into being, that

which is stored up for the future plant — if, as I say, we are speaking of the initial plant, vitalization does not take place from below upward. The vitality is sucked up from what is stored by the earth out of the forces of the sun's warmth and light from the previous year. We find the strongest life force in the root nature, and there is a gradual process of devitalization from below upward.

When we reach the flower petals of plants that contain strong ethereal oils in their blossoms, we have an expression of the most powerful devitalizing process of all. Such a process is often connected with an actual working through of sulfur, for instance. Sulfur is then contained, as substance, in the ethereal oil of the blossom, or it is at least near the ethereal oils of the blossom and is actually responsible for the process whereby the plant is led over into the realm of the most weightless inorganic substance — which is still, however, on the borderline of the organic, of the living. It is exceptionally important to realize what we are bringing into our organism when we introduce plant substances. The plant is engaged in the opposite process from that which occurs in the human organism.

If we proceed from this and turn to consider actual illness, we must say to ourselves that the plant element — and it is the same with other substances in the outer world, and to a much higher degree with the animal element — is really

opposed to what unfolds in the human organism as a tendency to call forth this or that process. When we look into the process of nourishment in the human being without prejudice, therefore, we must admit that all food introduced into the human organism is something that this organism must utterly transform, reverse. Fundamentally speaking, therefore, all nourishment is the beginning of a kind of poisoning. We must be clear, then, that actual poisoning is only a radical metamorphosis of what arises in a mild form when any food is brought into contact, let us say, with the ptyalin. The further course of the digestion, particularly what is brought about by what I have described to you as the kidney activity, is always a process of eliminating the poisoning. Thus we pass through the rhythm of a mild poisoning and its elimination when we simply eat and digest our daily food. This represents the most mild metamorphosis of the process that arises in greater intensity when a remedy is introduced into the organism. That is why it is nonsense to be fanatical about medicine that is "free from poison." It is nonsense, because the only point at issue is this: in what way are (we intensifying what already happens in ordinary digestion by introducing something to the human organism that is more foreign to this organism than what we ordinarily digest?

Real understanding of the human organism is necessary before we can estimate the value of an external remedy for this organism. Let us begin with something that is continually

present within the human organism as a remedy — the iron in the blood. The iron in the blood continually plays the role of remedy, protecting us from our innate tendency to become ill. I will describe this to you, to begin with, in a primitive way. You know that if our brain were to rest upon its base with its weight of some 1,500 grams, the cerebral blood vessels there would obviously be crushed. The brain does not rest upon its base but floats in the cerebral fluid and, in accordance with the principle of buoyancy, loses as much of its weight as the weight of the volume of fluid displaced. Thus the brain presses on its base with a weight of only about 20 grams instead of 1,500 grams.

This is a fact of fundamental importance because it shows us that the force of gravity is not the determining factor in what underlies the functions of the brain, in ego activity, for instance. This ego activity and also, to a great extent, conceptual activity — in so far as it is not will activity but purely conceptual activity (I am referring now to the physical correlate of this, the brain activity) — is not dependent on the gravity of the substance in question but on the force of buoyancy. It relies on the force that wants to alienate substance from the earth. With our ego and with our thoughts, we are living not in gravity but in levity, in buoyancy. This comes to light in a powerful way when we study the matter.

The same thing that is true for the brain holds good for

much else in the human organism — above all, for the iron bearing blood corpuscles floating in the blood. Each of these corpuscles loses as much of its weight as the weight of the volume of fluid displaced. Now, if we live with our soul-being in a force of buoyancy, just think what having more or less of these iron-bearing blood corpuscles must mean for the whole life of feeling, indeed for the whole life of the human organism. In other words, if in a given case there is an irregularity in what is going on in the blood simply as a result of the buoyancy of the iron-bearing corpuscles, we know that iron must be introduced in some way, but in such a way, of course, that makes it possible for the iron to unfold its proper activity in the blood and not elsewhere.

In terms of spiritual science, this means that the relationship of the etheric organism to the astral organism of the human being is bound up with the iron content of the blood. And if you understand how the heart-lung activity leads over into everything that is taken up in the human being in the vitalizing process, and how the kidney activity in turn leads what has been vitalized over into the astral organism, you will not be far from the insight that balance must prevail here. If balance does not prevail, if either the etheric or the astral activity becomes too intense, the whole organism is bound to fall into disorder. You can provide the means, however, of calling forth the appropriate balance, of enabling the organism to lead the necessary amount of food into the domain of the kidney

activity, by regulating the iron content in the blood. And by imbuing the actual dynamic element in the blood either with weight or with buoyancy — according to how you regulate the iron content — you regulate the general circulation of blood, which in turn reacts upon the kidney activity. In adding to or decreasing the iron content you bring about an essential regularization of the blood circulation, that is, of the relation between the etheric and astral organisms of the human being.

Now let us take a concrete case. Suppose we have flatulence as a primary symptom. I am choosing a crude example for the sake of clarity. What does flatulence indicate to one who has insight into the human organism? It indicates the presence of aeriform organizations in which the astral organism is working too strongly and that are not being dissolved quickly enough. They are effects of the astral organism — which works, of course, in the gaseous being of man — and they conglomerate instead of forming and dissolving in the regular way. Thus we have a predominance of the astral organization's activity, which expresses itself physically in the airy aspect of the human being. This is what is happening when flatulence is present. Because the astral activity is too strong, it influences the whole activity of the senses, especially the activity of the head. The astral activity becomes congested and does not distribute itself properly in the organism; hence it does not work into the metabolism as it should but recoils on the nerve-sense system with which it is

more closely related. We soon find something amiss with the nerve-sense system too — or at least we may assume that we have a complex of symptoms in which the nerve-sense system is not working properly.

Now I must say something in connection with the irregular activity of the nerve-sense system. Physiology really speaks nonsense about this nerve-sense system. Forgive me for saying this — I am expressing myself radically simply so that we may understand each other better. You must naturally take such statements with the familiar grain of salt, but if I compromise too much in what I say we will not find it as easy to understand these things. Supersensible observation of the human organism reveals that any given function that can be demonstrated by sense-oriented empiricism is, from the higher point of view, the sense-perceptible reflection of something spiritual. The whole human organism is the sense-perceptible reflection of something spiritual. But the interaction between the soul-spiritual realm and the physical-organic in the human organism is by no means as simple in the case of the nerve-sense system as is generally imagined.

If you look only at the physical organization of the human being, it is not true — as many people would like to assume — that with the exception of the nervous system and the senses the physical organization constitutes one whole, and that the nervous system is inserted into this structure in order

to serve the life of soul separately. It is not usually described quite so radically, of course, but if we come down to the practical considerations underlying the physiological theory, something of this sort comes to light. This is why it is almost impossible today to form any rational opinion of what are often called functional diseases, nervous disorders and so on. There is nothing in the human organism that does not belong to the entire organism and that does not interact with other organs. The rest of the organism is not simply left to its own devices while a separate nervous system is inserted, heaven knows by what divine power, in order that the organism can bear a soul.

If you look for evidence of what I am maintaining here you will find it in a twinkling! The nervous system is primarily that from which the formative, rounding-off forces of the organism proceed. The form of your nose, the form of your whole organism is shaped, fundamentally, from the nervous system. The kidney system rays out the forces of matter in a radial direction, and the nervous system is there to give the organism its forms, both inwardly and outwardly. To begin with, the nervous system has nothing to do with the life of soul; it is the shaper, the form-giver of the human organism, inwardly and outwardly. It is the sculptor.

In the early stages of individual human development, a certain portion of nerve activity that the organism does not

use for formative functions separates off, as it were, and the soul element increasingly adapts itself to this position. This is secondary, however. If we notice this separation of a part of the nerve process in very early childhood, and the adaptation of the soul life to these formative principles, then we really get down to the empirical facts. There is no question of the nervous system being incorporated into the human organism as the result of some kind of divine ordinance in order to form the basis for the life of will, feeling, and thought. The nerve-sense life is born through a sort of hypertrophy, part of which is preserved; to this preserved part the activity of the soul then adapts itself, while the primary function of the nerve-sense system is formative. All the organs are shaped from the nerve-sense system.

If you want to verify this empirically, begin by taking the senses located in the skin, spread out over the entire skin — the senses of warmth and of touch — and try to see how the whole form of the human organism is sculpturally formed by these senses, whereas the forms of the special organs are shaped by other senses. That we are capable of seeing is due to the fact that something remains over from the formative force proceeding originally from the visual tract for building the cerebral organs, and then the soul elements we develop in the faculty of sight adapt themselves to this “something” that has been left over.

We shall never have real insight into the human being if we do not realize that as metabolism is going on within us continually, day by day, year by year, our organs must first be provided for by what rays out from the kidneys in a radial direction and is then sculpturally rounded off. The substance that is radiated out by the kidneys must be continually rounded off sculpturally. Throughout the whole span of man's life this is done by the nerve organs that extend from the senses toward the inner parts of the human organism. Higher sense activity, image-forming activity and the like, are simply the result of an adaptation of the soul element to this particular tract of organs.

This should convince us that if the astral organization is working too strongly in the complex of symptoms of flatulence, the excessive astral activity is tending in the direction of the formative forces of the senses. Thus there is a congestion of astral activity in the upward direction and toward the periphery of the human organism; not only do we find congestion, but there are actually gas bubbles that are rounded off still more completely, which are really striving to become organs. In other words as the result of excessive kidney activity, a continual attempt is being made in the upper human being to hold back the ego organization above and to prevent what passes into the organism through the blood from returning in the proper way. Associated with this complex of symptoms, then, we often find cramps that are due to the fact that the

astral forces are not passing in the right way into the rest of the organism. If they are congested above, they do not pass into the rest of the organism. In the rest of the organism, then, we notice cramp-like phenomena that are always due to the fact that the astral forces are being held back. By studying inwardly a complex of symptoms of this kind, looking at it with the help of the super-sensible, we can eventually relate what we behold outwardly to what can be beheld inwardly.

Think of it: the astral is held back above, and as a result the entire metabolism is drawn upward; the astral body is not making proper provision for the kidney organs and even less for the stomach; the stomach, which is receiving too little from the astral organization, begins to fend for itself. What you see outwardly is colic and cramp-like conditions of the stomach; cramps may also arise in the sexual organs because they are not properly permeated by the astral organization, or there may be stoppages of the menstrual periods, due to the fact that the ego activity is held back above.

Now let us ask ourselves: how can we influence irregularities of this kind? If you want to be clear about this it is best to realize that the magical names given to illnesses merely serve the purpose of conventional understanding. What is really essential is to see what groups itself together and interweaves the individual symptoms. But we must be able to appraise the importance of these symptoms.

Suppose we are considering the function associated with a flower containing sulfur. If a flower contains a certain amount of sulfur, this means that a process is strongly on its way to the inorganic, a process that is still akin to the organic. If we introduce into the human organism a remedy prepared from such a flower, or even from the sulfur itself, the processes in the digestive tract will be stimulated to greater activity. The stomach and especially the intestinal activity will be stimulated by a decoction of flower petals containing sulfur, because, as I have already said, a process of devitalization that must be reversed is taking place in the plant. The irregularity that has appeared in relation to the kidney activity is indirectly stimulated to a strong reaction, and we have, to begin with, the possibility of counteracting the congestion above by means of a strong counterpressure from below. (The forces working here are for the most part only fleeting in their effect, but if we give temporary help to the organism, in most cases it will begin to help itself.) The astral organization will again be drawn into the digestive tract, as it were, and the result will be a cessation of the attacks of colic and stomach cramps. Of course such a remedy by itself will suffice in only a few cases. It will probably be adequate when the stomach cramps are slight. We must never over-stimulate the organism; whenever it is possible to use a weaker remedy we should avoid a stronger one.

Suppose we encounter a complex of symptoms like the one

I have just described. The disturbance being very severe, we will assume that demands are being made on the over-active astral body by an excessive kidney activity. The astral body works with undue strength into the sense organization, which is thereby weakened and undermined in a certain way. It is not really undermined as a sense organization, but the astral organism is working in it so strongly that the formative forces of the nerve-sense organization are drowned, as it were, by the mere activity of the astral organism. The sense organs or the nerve-sense organization in general is not less active, but it does not work in its own characteristic way as nerve-sense organization. It takes on the organization of the astral organism, as it were, and is active in the way that the astral organism is active. This means that it is not performing its form-giving functions properly. We must use a remedy here through which the astral activity is lifted out of the nerve-sense organization. We can only do this if we use a remedy that stands in closest connection with the outer world and that works upon the nerve-sense organization which, as organization within the human being, is nearest of all to the inorganic.

The physiology of the senses is fortunate because in the sense organs there are so many inorganic, which is to say so many purely physical or at most chemical, elements to be explained. Think how much in the eye lies in the domain of pure optics. A great deal in the eye can be depicted

beautifully if it is treated merely as a kind of photographic apparatus. In saying this I only wish to indicate that we are coordinated with the outer world precisely through the sense organs, and that in our senses we have channels through which the outer world flows into us by way of the inorganic.

Now when we need to give support to this specific nerve-sense activity, we can do so very well by introducing silicic acid into the human organism, for silicic acid has an affinity for this inorganic aspect at the periphery. We drive the astral organization out, as it were, by means of everything that underlies the silicea, which inclines very strongly, even outwardly, toward the inorganic. When you find silicic acid in a flower, you invariably discover that the flower is thorny, bordering on the inorganic. Thus we can relieve the sense organs by administering this silicic element on the one hand, and on the other hand by supplying the organism with more sugar than it ordinarily has. Sugar, too, is a substance that is worked through in the human organism in such a way that it finally closely approximates the inorganic. Thus everything we introduce by way of sugar relieves the sense organs. If you are able to, you may also strengthen this process by the administration of alkaline salts, which are particularly able to relieve the nervous system of astral activity. These things must be verified by a series of empirical investigations.

Spiritual science thus enables us to arrive at guiding

principles. In the activity developed by intuitive knowing, for example, we can see the aftereffects of sugar, particularly in those parts of the human nervous system that run from the central nervous system to the senses; the aftereffects of silicic acid tend toward the peripheral activities unfolding in the senses. These things can all be verified and proven. When a severe complex of symptoms such as I have described is present, it will therefore prove beneficial to administer remedies composed simply of alkaline salts, which work very strongly to relieve the nerve activity of the astral nature, of sugar (not, of course, administered in the ordinary amount but in an unusual one), and, as I have suggested, of silicic acid.

The best remedial effects of these substances will be obtained if you simply administer the roots of camomile boiled in the appropriate way. It may surprise you that I speak of the root, but the different aspects under consideration here intersect, and we must realize that when the symptoms are severe, blossom products are not enough. What we really need is a substance that is still contained in a highly vitalized state in the plant, so that the long process it has to undergo will make the reaction vigorous enough. If we introduce into the digestive tract a suitable dosage of these substances as they are found in the root of the camomile, the reaction in this case will not be strong enough to allow the vitalization to take place at the point of transition from the intestines to the blood; what is contained particularly in the sugar and silicic acid, but

also in the alkaline salts, will simply be forced through in an untransformed state. Thus the kidney activity has a chance to absorb it into its radiations, and the substances absorbed in this way are then impelled by the kidney activity toward the nerve-sense activity, which is thereby relieved of the astral functions.

If we really have insight into these matters, if we realize that this way of proceeding therapeutically leads to the most healthy results, much can be discovered. Furthermore, we can very easily be led to other things. We can see how what is absorbed is transformed in the human organization, how the activity of the kidneys sets to work, receiving what is supplied to it by the channels of the blood and radiating it out; we can see how the plastic activity then reacts in its turn. Then we begin to see how this plastic activity in its pure form is restored by the administration of silicic acid, sugar, and alkaline salts. To super-sensible vision, silicic acid, alkaline salts, and sugar, mixed in the right proportions and viewed intuitively, form a kind of human phantom. Something like a phantom is there before us if we picture these substances in their formative force. They are pre-eminently sculptors, these substances; they bear the plastic principle within them. This is evident even in their outer formation through intuitive vision.

The strong effect of silicic acid is due, in the first place, to the fact that when the substance appears in the inorganic

realm it has the tendency to shape itself into elongated crystals. The same results attainable with silicic acid could not be achieved with substances that have the tendency to develop into rounder, less elongated crystals. With such substances it might conceivably be possible to cure a hedgehog but not a human being, whose very principle of growth shows tendencies to elongation.

Those who have no sense for this artistry in nature — an artistry through which the organism is shaped, shaped chiefly by the nerve-sense activity — cannot discover in any rational sense the relationships between substances in the outer world and what is taking place in the human organism. Yet there is indeed a rational therapy — a therapy that is simply able to perceive processes that take place in the outer world, that are broken down in the human organism and can then be radiated out by the kidney activity and taken hold of by the plastic activity of the nerve-sense organism.

Let us take another example. Suppose that the radiating action of the kidneys, instead of being too strong, is too weak — that is to say, too little nourishment is being sucked up into the astrality. Everything I described in the previous complex of symptoms is due to excessive working in the astral organism, because it is active particularly in the upper human being and holds itself aloof from the activities of digestion, heart, and lungs. As a phenomenon accompanying this complex of

symptoms, we find the formation of phlegm and the like, which is quite easy to understand. Thus in this complex we have to do with an excessive astral activity. Now suppose that the astral activity is too weak. The radiating activity of the kidneys is too weak, so that the astral organism of the human being is not in a position to supply what it should to the formative forces when it penetrates into their domain. The formative force cannot then work itself into the astral organism, because the latter does not reach sufficiently to the periphery. The result is that no active contact is established between the formative force and the force proceeding from the circulation of the food substances and their distribution. The substance is distributed without being taken in hand by the formative force. Not enough of the plastic force is present, and the substance is abandoned to its own life; the activity of the astral body remains too fleeting and does not work properly in the transformation of the substances.

We can certainly regard such a state of affairs as a complex of symptoms. How does it express itself? Above all, what is coursing through the blood vessels will not be absorbed in the proper way by the weak kidney activity, that is, by the astral organization working insufficiently. It collapses, as it were, resulting in hemorrhoids or excessive menstruation. The contact fails, and the metabolism lapses back into itself. In this condition of the organism it is particularly easy for a state of “fever of unknown origin” — as it is called — to arise, or

even a condition of intermittent fever.

Now the question is: how can we approach this complex of symptoms? The activity of the astral organism is too weak. We must stimulate the renal activity so that through this activity enough substance may be drawn up into the astral organism. Something occurs now to which I have already pointed. The best thing to do here is to restore the balance between the etheric and astral organisms. Then, simply due to what passes from the digestive tract into the system of lungs and heart, we get the proper transition to the activity. We obtain a kind of balance, and in many cases we can control it precisely by regulating the iron content in the organism, which governs the circulation. This will now stimulate a strong, inner kidney activity, which will be evident outwardly in a change of excretions of urea, both through the kidneys and through the perspiration. This will be quite evident. But of course in many cases we must realize that this balance is always very unstable and that only in the crudest cases will the remedy in question here, which we already bear within us, be of assistance.

In the digestive tract substances containing sulfur in some form are the most effective, and in the nerve-sense system (which we now understand as the formative principle) substances such as silicic acid and alkaline salts are most effective; it is pure metals that are the substances to regulate

the balance between gravity and buoyancy. We must only explore how best to apply them in order to restore the disturbed balance in the most varied ways. We begin with iron. According to the complex of symptoms, the most suitable metal may be gold, or perhaps copper. If we determine the form of the disease of the human organism, we will be able to achieve the most important results with the pure metals. If in the interplay between the functions of form-building and breaking down form there is too little form-building and this state of affairs becomes organic — if, therefore, the primary cause of the trouble is that the relation between the heart-lung system and the kidney system is upset — we will achieve the best results with iron.

If as a result of lengthy disturbances in these processes the organs themselves are already impaired, however, and have already suffered because the plastic activity has not been able to reach them — if the organs are already formed incorrectly due to an inadequate amount of plastic activity — we may have to apply mercury. Because mercury already contains the forces of form, the durable metallic drop-form within itself, it has a definite effect upon the lower organs of the human being. In the same way we can discover definite connections between metals and organs of the head that have been attacked and formed incorrectly, for instance when the nervous system itself has been attacked. In such a case, however, we must not confine ourselves to simply setting up a

stable balance in opposition to the vacillating balance. This is extraordinarily difficult. This balance is just like a very sensitive pair of scales: we try in every possible way to bring the beam of the scale into balance, but it is very difficult. We shall approach it more easily, however, if we concern ourselves not merely with the beam but with the pans of the scale themselves. We can achieve a state of balance, for instance, by supporting the effect of the iron, introducing something sulfurous into the digestive tract and providing a counteraction in the nerve-sense organism by means of alkaline salts. Then in the middle, rhythmic system of the human being iron will be at work, which in this situation distributes itself beautifully; in the nerve-sense organism potassium, calcium, or alkaline salts will be at work, and in the rhythm of digestion sulfur will be at work. This way of attempting to restore the balance is better.

The remarkable thing is that we find the very opposite in the leaves of certain plants. If, for instance, we prepare the leaf of *urtica dioica*, the ordinary stinging nettle, in the right way, we have a remedy composed of sulfur, iron, and certain salts. But we must really know how to relate the devitalizing force that is present in the plant to the vitalizing force that is present in the human organism. In the root of *urtica dioica*, the whole sulfur process is tending gradually to the inorganic. The human organism takes the opposite course and transforms the sulfur by way of the protein in such a way that it gradually brings the

digestion into order. The iron in *urtica dioica* works from the leaves in such a way that in the seed (and thereby in next year's leaves) this plant shatters the very thing that brings together the rhythmic process in the human organism — the process in the stinging nettle is the opposite. In fact, the stinging power of the nettle leaves is this destructive process that must be overcome if the rhythmic process in the human organism is to be regulated. Again, the alkaline salt content of the plant is least of all transformed into inorganic matter. Therefore it has the longest way to go, going right up to the nerve-sense organization; it goes up quite easily because, with the complex of symptoms we are now considering, we know that the kidney activity is asleep, is suppressed. In the human organism we actually have the opposite of what is expressing itself outwardly in the formation of the plants. But there is no need to confine ourselves merely to plant remedies; synthetic remedies may also be prepared and cures effected by combining in a suitable dosage the substances I have characterized.

These are matters that will gradually transform therapy into a rational science, but a science that is really an art, for without art, therapy cannot become a complete science any more than a person who is not an artist can be a sculptor. An individual may have a splendid knowledge of how to guide his chisel and how to mold the clay, but there must always be something leading over into the realm of the artistic. Without

this, true therapy is impossible. We must really achieve the right touch — in a spiritual sense; of course — for determining the dosage. This will not suit those who would like to turn medicine into a “pure” science, but it is true nevertheless.

And now let me describe another possible situation. There may be a disturbance of the appropriate interaction between the inorganic element that the human organism produces as a preliminary to leading it over into organic life, and the subsequent intervention of the etheric body, of the heart-lung activity. The older an individual is, the more apparent is this disturbance in human development. In this case the digestive tract and the vascular system are not working together properly. When this happens, we must remember that the consequence will be an accumulation of the products of metabolism. If the substances are not being distributed properly in the organism, the natural result is an accumulation of the products of metabolism. Here we come to the whole domain of diseases of metabolism, from very mild cases to the most severe forms. We must realize that in such cases something is also amiss with the kidney activity due to the fact that because of the preceding congestion the kidneys receive nothing to radiate out.

This gives rise to highly complicated forms of disease. On the one hand the activity of digestion and the kidneys provides no material upon which the plastic, form-giving

activity can work, and on the other hand, as the result of a stultification of this plastic activity, we have a disturbance of the organic balance from the other side, so that the plastic force, too, gradually ceases to function. The products of metabolism spread themselves out in the organism but fail, little by little, to be received into the field of the plastic activities and used as modeling material. When this happens, certain metabolic diseases arise that are very difficult to treat. The proper approach to treatment here is to stimulate in the digestive tract, and then also in the heart-lung tract, everything that is akin to elements that are on their way to the inorganic state — akin, that is, to the sulfuric or phosphoric elements in the blossoms of plants, connected with or bordering on the ethereal oils. By doing this we stimulate a renal activity in the organism and thereby help the plastic forces. In this type of disease it is very important to bring influence to bear on the digestive apparatus.

The kidney activity and the excretion of sweat are in a certain sense polar opposites, and they are intimately connected to each other. If the kidney activity is disturbed as a consequence of what I have described, we will always find that there is less perspiration. Great attention should be paid to this, for whenever there is a decrease in perspiration, we may be sure that something is amiss with the kidney activity. When perspiration decreases, what is happening as a rule is that the kidneys operate like a machine that has nothing to

work upon but continues to act, while the products of digestion are already congested and are spreading improperly in the human organism. We may succeed in getting the better of these metabolic diseases if we apply sulfur treatments either inwardly or outwardly (for we can work just as well from the skin as from the kidneys themselves). By doing this we may succeed in stimulating the digestive tract to such an extent that it in turn stimulates the heart-lung activity so that material is again supplied to the renal activity; then this material does not lie fallow without reaching the renal activity.

In all these matters, however, we must be quite clear that the human organism does not wish to be absolutely cured but only to be stimulated to unfold the healing process. This is a fact of supreme importance. In the state of illness, the human organism wishes to be stimulated to unfold the healing process. If the healing is to endure we must actually limit ourselves to giving a mere stimulus. A cure that apparently takes place immediately leads much more readily to relapses than a cure that merely stimulates the healing process. The organism must first accustom itself to the course of the healing process, and it is then able to continue it through its own activity. In this way the organism binds itself much more intimately to the healing process, until such time as the reaction again sets in. Before this happens, however, the organism settles down. If the organism can be made to adjust itself to the healing process for a certain length of time, this is

the best possible cure, for then the organism actually absorbs what has been transmitted to it in the healing process.

I have only been able to give you certain hints as to method here, but you will realize that with what I call a spiritual scientific illumination of physiology, pathology, and therapy, we are trying to understand that the human being is not an isolated being but belongs to the whole universe. We must also see that with any process taking place in the human being in an ascending curve, let us say, we must seek outside the human being in nature for the descending curve. In this way we will be able to modify curves that are ascending too abruptly, and so forth. Medicine demands knowledge of the whole world in a certain sense. I have been able to offer only a tiny fragment, of course, but this fragment should make clear to you that there must be an entirely different understanding of the nature of *urtica dioica*, *colchicum autumnale*, or indeed of any other plant, the plants themselves must tell us where their descending tendency is leading.

When you approach the *colchicum autumnale*, the autumn crocus, you must understand that the time of year in which it appears is not without significance for its whole structure, for this brings about a certain relation to the vitalizing process. That the devitalization is very slight in *colchicum autumnale* you can see from the very color of its blossom and the time of

its flowering. If you then experiment with *colchicum autumnale* as a remedy, you will find that the organism must exert itself to a very high level to bring about the opposite vitalization, that is to say — if I may express it crudely — to kill the plant and then make it alive again. Indeed, this whole process unfolds right up into the human thyroid gland. Now you have the basis for a series of investigations with *colchicum autumnale* as a remedy against enlargements of the thyroid gland.

Let me assure you once again that there is no question here of a wasteful and amateurish abuse of modern scientific methods. Instead we are giving guidelines that will actually lead to more tangible results than pure experimentation. I am not by any means saying that such a pure experimentation cannot also be fruitful. It does indeed lead to certain goals, but with this method a great deal passes by us completely, especially many things we can learn by observing nature. Although it is fine to produce synthetically a preparation composed of iron, sulfur, and alkali, it is good to know how, in a particular plant, all these substances are synthetically brought together in a certain way by nature herself. Even in the production of synthetic remedies we can learn a great deal by understanding what is going on outside in nature.

It would be fascinating to enter into many things in detail, and I think that some of our doctors will have done so in other

lectures. A great deal, too, can be found in our literature, and there are many subjects that I hope will soon be dealt with there. I am convinced that as soon as these matters are presented in a clear, concise form and people are not afraid to go straight ahead, they will take this point of view: "I must above all heal if I want to be a doctor, and so I will turn to what appears antipathetic to me at first. If it really helps, I can only try to profit from it as well as from what is to be found in the standard literature."

I think it would be good if as soon as possible we could produce literature of a kind that would offer a bridge between spiritual science and modern sense-oriented science. It would encourage the opinion that these remedies help, so they cannot after all be such utter nonsense! I am quite sure that when our work is properly in motion, the verdict will be that it does indeed help. And here I will conclude. Try these things and you will see that they help. This too will be significant, for many things that are used in orthodox medicine do not help when they are applied. Everything that we would like to introduce from the viewpoint of spiritual science can unfold in the struggle between what does and does not help.

Physiology and Therapeutics 1

The scheduled lecturer is not here yet. I hope he will come soon, but I wouldn't like you to have to sit and simply wait, so I will make a few remarks. It is obvious that this series of lectures is particularly important in our course, for it needs to be shown in a practical realm how our anthroposophically oriented spiritual science is really able to take hold in the practice of life. The realm of practical life concerning medicine and therapy is one of the most important, as everyone can experience it in his own body. For just this reason we must not fail to carry anthroposophy into medicine, even at the outset of our anthroposophical efforts.

In this course we have tried particularly to represent the various specialties with externally acknowledged specialists, for it is necessary, in presenting spiritual science to the world, that these various subjects be represented by professionals; otherwise they will not be accepted in the way they ought to be. Nevertheless, before the scheduled lecturer arrives, I will make the effort to say something to you about physiology and its relation to therapeutics from the viewpoint of spiritual science. Our theme today will touch on this. I will show you how spiritual science is being called upon to influence the study of medicine and also the practice of medicine, the entire art of medicine.

You know that in our higher education the actual study of

medicine is ordinarily preceded by a preparatory study of natural science, following which is the actual study of medicine. After becoming acquainted more with the biological-physiological phenomena, therefore, one devotes oneself more to pathological phenomena in order to struggle through to therapy. Many of my listeners, however, are well aware of what short shrift therapy receives in this kind of study of medicine. Through its natural scientific orientation, the study of medicine is certainly led to comprehend natural processes in the human being. Then when the budding physician enters the realm of pathology, however, he approaches it with a particular view of natural processes by which he can scarcely gain a correct relationship to pathological processes.

It seems to me that a belief has arisen with a certain urgency in recent times. We have become accustomed to gaining a definite view of natural processes, of their inner coherence and underlying causality. In the healthy human being we must obviously search for the necessary causal connections between certain natural processes in accordance with this presupposition. In the ill human being, however, or, let us say, in the diseased organism, what can we look for except natural processes also proceeding basically with causal necessity? We are constrained to say that what confronts us in illness in these totally evident, causally determined natural processes is abnormal in relation to the healthy organism, falling out of the causal connections of the

healthy organism in a certain way. In short, when we penetrate into the realm of medicine, we are immediately made uncertain and skeptical in relation to the approach to nature that underlies our modern view of natural events.

This paradox led to skepticism among many physicians, especially to the skepticism that I have described here previously, a kind of nihilism in relation to therapy. I was acquainted with the famous professors who were active on the medical faculty at the university in Vienna at the time when this faculty had reached its pinnacle; they were fundamentally therapeutic nihilists. Choosing an illness in their discussion to which their view was particularly applicable, they said that one can only allow an illness, pneumonia, for example, to take its own course, guiding this course along the proper path by means of calming, supportive measures or other outer measures until the crisis comes, whereupon the whole illness subsides. They said that it is not actually possible to speak in the true sense of what for centuries, for millennia, had been called healing.

If such a view were to lead to its logical consequences, medicine would gradually develop into a mere pathology, for in relation to the investigation of diseases, especially from the viewpoint of a materialistically minded natural science, therapeutic nihilism has been brought to an extraordinary fulfillment in our time.

At this point I would like to warn against a misunderstanding, that of believing that from here, and from the side of an anthroposophically oriented spiritual science generally, the great significance of modern natural science could go unrecognized and undervalued. This is absolutely not the case. Anyone who has looked even a little into the advances of the pathological method of investigation during the second half of the nineteenth century would have to be astonished, amazed, at its truly remarkable progress. In addition to this, however, he would have to penetrate to quite another recognition. He would have to say to himself that while materialism has certainly made its appearance, materialism alone cannot satisfy certain demands of human feeling; it is also unable to illuminate vast areas of human knowing.

This materialism nevertheless had a kind of mission, you could say. It developed in an extraordinarily precise way the capacity to conduct experimental research through observation. Something like our modern pathology, tainted as it is by its materialism, is possible exclusively due to this materialism. People are always judged harshly today when they are not one-sided, and when as editor and publisher of the *Magazin fuer Literatur* I wrote an article at Buechner's death that did not damn him but actually acknowledged his achievements, I was labeled a materialist. Yet this is just what is essential in experiencing and pursuing spiritual science,

that one be able to transmute oneself into everything; everywhere one must be able to find the thought-form, the feeling-form, out of which perhaps even the most contradictory directions and world views are able to gather their forces; one must be able to honor the achievements that have proceeded from something like materialism, which, to be sure, must nevertheless be overcome in our time — it is simply a demand of the time.

I would like to draw your attention to something else however. You have heard here in the course of our lectures that we are striving for a phenomenology in science. You have also heard, and with the greatest possible justification, that there must even be a striving toward a chemistry free of hypotheses. I am quite sure that in many of the things that must be presented in relation to medicine and the practice of medicine, someone will discern one thing or another that strikes him as a hypothesis. It is necessary, however, especially if one begins to deliberate on the organic out of the inorganic, to delineate properly the concept of the hypothesis.

What is a hypothesis? Let us consider a very trivial matter from ordinary life. I have gone down a road and have seen a person along this road; I go further and no longer see him; I will not assume right away that this person has been swallowed up by the earth. This would be true in the least number of cases! Instead, I will look around me and possibly

see a house. I can limit my thoughts so that I say to myself, "That person went into this house. I don't see him now, but he is inside." This would not be making an unwarranted hypothesis; rather I am assuming thoughts hypothetically that come to me when something appears in the course of sense perception that must be explained by presupposing something certainly stemming from the sequence of my mental images but not seen directly, not actually able to be observed, which therefore is not a direct phenomenon for me. I would not be making an unwarranted hypothesis if I assumed something like that; similarly, I would not be making an unwarranted hypothesis if by some process I make warmth perceptible with a thermometer and then through congealing or a similar process I see this warmth disappear and then speak of the warmth that has disappeared as latent warmth.

It is absolutely necessary, therefore, especially if one wishes to conduct fruitful research, to pursue the sequence of sense images in one direction or another. An unwarranted hypothesis is one that has been arrived at by conceptions regarding which, were they to be followed through with insightful thinking, it becomes clear that what underlies them could never be perceived. Then one must endow these conceptions — and atomism, molecularism, are such conceptions — with ingredients that could never be perceived. Otherwise they could simply be perceived. For example, one can never surrender oneself to the illusion that, even if one

were able to see the smallest constituents of solids through some process, light could then be explained by means of movement, for then light would be carried into these smallest parts.

I beg you on this occasion to make a clear distinction between justifiable sequential thinking within experience and making unwarranted hypotheses.

If we now return to our previous thoughts, we must say the following: we see before us on the one hand the so-called normal human being and on the other hand the diseased human being. By necessity we must recognize in both organizations a process occurring in accordance with nature. And yet how is one process related to the other? It is precisely the separation of physiology from pathology and therapy, which has become customary in recent times, that prevents us, in the transitions from one to the other, from arriving at the appropriate conceptions. Furthermore, the modern physician is basically unable to take the spiritual into consideration at all when he is engaged in the study of physiology, or even pathology, for this spiritual element is still an unknown in modern science's approach. It is therefore missing from all our considerations.

In contrasting clearly and plainly these two processes of nature — the physiological and the pathological — it is

possible to offer for consideration certain extreme cases of the pathological, first in abstract form. Out of consideration of such extremes it will perhaps be possible to arrive at fruitful conceptions. In the beginnings of a science, you need not think of the existence, of the demand, of an absolute necessity. What one calls exactness, an inner necessity, can emerge only in the course of the consideration. Thus if a person wishes to consider a certain formation in nature, it is possible, you could say, to begin at any corner. Let us take an extreme case within the diseased human organism, one that presents modern medicine with an extraordinary number of difficulties: carcinoma-formation, cancer-formation.

We see something appear within this type of illness that reveals itself even to microscopic investigation as something organic, or at least as something that looks organic; and it appears in the ordinary organism in such a way that it gradually destroys the life of the rest of the organism. At first we can only say that we find something appearing within the bodily aspect of the human organism; this seems to ascend from unknown depths and to insert itself into the ordinary course of nature, disturbing this course.

We can also go to the other extreme of the pathological organism. We can see how something can arise that takes a normal activity in the human organism and develops it excessively into something abnormal. And then we consider a

human organism as abnormal. I do not want to dwell particularly on these expressions, normal and abnormal, but they ought to be adequate for a preliminary discussion. In the course of our studies it will become evident that the normal simply passes in transition into the so-called abnormal, but for a preliminary discussion these expressions, normal and abnormal, can certainly be used.

When we encounter the normal human organization, we see that in the soul realm there develops a definite kind of willing, a definite kind of feeling, a definite kind of thinking. In social interchange we have gradually become accustomed to crystallizing a kind of normal picture, as it were, out of the mental images that we create from our association with people, a picture that guides us to consider as normal a person who, out of himself, shapes his willing, feeling, and thinking to a certain extent.

If we now make our thoughts just a bit more concrete, we necessarily reach the point of picturing an organism that functions too strongly, for example, functioning like an object in which there is latent warmth and from which we free this latent warmth, releasing far too much of this warmth into the environment. So much latent warmth is freed that we no longer have the slightest idea what to do with it. If the human organism acted in this way, so that too much was pressed out of it in this direction, certain results in the thought realm would

be revealed to us. The emotional element, however, is always playing into the thought realm through feeling. Such a human organism would appear to be burdened within the thought realm by what we call the manic conditions. In such a human organism we therefore see something arising that appears to flood the organism with forces of organization that incline toward sense experience.

In carcinoma-formations, on the other hand, we have a condition in which the organizing force of nature appears within the organism, separating itself off, as it were; we have a condition in which this force of organization inserts itself into the organism. In the pathological phenomena of manic conditions or similar phenomena, something from the organism cannot be held in, as it were, and emanates out of the organism.

Drawing



If I were to sketch this for you schematically, I would draw it in this way (see drawing): if I draw a circle around the normal

formation of the human organism here, I would have to suggest the appearance of a carcinoma by drawing something in a certain spot (red); these are forces of growth that now adhere inwardly to the organism so that in this spot the organism must cast off something that otherwise would pour into the entire organism. If I wished to draw what appears from the other pole, in the case of the manic conditions, I would have to draw something (this is all intended to be schematic, of course) as if it were welling forth from the organism (blue), pressing toward the soul-spiritual.

Now you can imagine weaker versions of these most extreme cases that I have sketched here. Imagine that the first extreme did not reach the point of carcinoma-formation but was stopped on the way to forming a carcinoma. If it were stopped on the way to carcinoma-formation, then an organ (for of course what happens cannot take place in nothingness, cannot take place in the intermediate spaces of the organism) would simply be taken hold of, but the organ would unite itself with the force that normally would strive inward in carcinoma-formation and there fully emancipate itself; it would unite itself with something that is a normal force in an organ, and we would then be dealing with the disease of an organ, which can be designated in the most varied ways, as is customary in medicine.

Now let us consider a tendency toward the manic condition

that has been arrested halfway to its culmination. Such a person would not be brought through the abnormality of his organization to the point where the soul-spiritual was fully outside him, as in clinically established mania; he would not reach the point of getting totally out of himself, as it were, the thought element taking its own course in an emotional way. The condition would remain halfway to the extreme, as it were; then we would have to do with various forms of so-called mental illness — “so-called,” I say — which can also appear in the most varied ways, from organically determined illusions, and so on, to conditions that barely manifest organically but that nevertheless are always based in the organism, conditions like hysteria and so on.

Here we have attempted to pursue in two directions phenomena that lead us from the normal into the pathological. I would like to show you what actually lies at the basis of this, but I will show this from another angle, not yet entirely from the realm of spiritual science, whose methods I have characterized as Imagination, Inspiration, and Intuition; I will show it from a viewpoint reaching its understanding instead from a kind of instinct, but you will see that this understanding, if it does not wish to break through to the spiritual scientific path, remains stuck in the middle.

In the development of German cultural life we have an extraordinarily interesting phenomenon. Quite apart from how

one evaluates Schelling as a philosopher, he is an interesting cultural-historical phenomenon. Even if everything he developed in his philosophy were false and distorted, a certain instinct lived in him for natural events, even in the realm in which ordinary natural science pursues natural events so unwillingly, where it relies more on a very crude empiricism. When the possibility presented itself to him, Schelling also sought to think medically; indeed he was extensively active even in issues concerning the healing process. In the history of modern philosophy little concern has been shown for how Schelling actually came, completely instinctively, to depart from mere abstract, logical-philosophical considerations and to immerse himself in a real study of nature itself, even of the organic. He even put out a journal that occupied itself to an exceptional extent with medical questions. How did this come about? This can become clear if one knows and understands rightly the value of the deep instinctual knowledge out of which Schelling drew his truths and his errors.

A saying thus emerged out of Schelling that was certainly not built on clear knowledge but, you could say, was hewn out of the instinctive element of the soul life, a remarkable saying. "To know nature," he says, "means to create nature." Indeed, if what is expressed in this sentence could be directly realized in human knowing, it would be easy for us to approach medicine. If we were able to take up the forces of creation in

our knowing, if the forces of creation were present in our consciousness, then we could easily penetrate into the realm of physiological and pathological phenomena, for then we would be able to observe the steps that creative nature follows. The empirical view states quite simply that we cannot do this.

One who then proceeds further can say that it is precisely in the unrealizable nature of this demand exceeding human capacity, which Schelling proposed, that we find something we are not permitted to see into, a process such as the occurrence of new formations. Because we are unable to pursue the creation of nature directly with our knowing, we are unable to see into the place where new formations appear; this means that without something further we are unable to pursue the existence of material processes such as come to expression, for example, in carcinoma-formation. By putting together what is actually denied to us there — our being unable to accomplish the instinctive demand of a highly gifted man that “to know nature means to create nature” — by putting together the unrealizable nature of this demand with what nevertheless appears to us in the carcinomatous process, it will be revealed how one must approach such processes in the body.

Of course Schelling has not spoken out of instinct from the other side. Consider just once the polar opposite to what

Schelling has said. His sentence stands as: “To know nature means to create nature,” which we are unable to accomplish; from the other side the sentence would stand as, “To know the spirit means to destroy the spirit.” This sentence has hitherto been expressed only by spiritual scientists, and even then only shrouded in a certain mysterious darkness: “To know the spirit means to destroy the spirit.” If we are unable to create nature, so we are also unable — we wish to present this first through an analogy, for then we can speak of it further — so we are also unable, out of our human capacity, to destroy the spirit. We cannot penetrate with our knowing to the point where the destruction of the spiritual begins. But you may already sense that here there arises a certain kinship to manic or similar conditions, for there too something destructive in the spirit arises. And the relationship must be sought between those normal human capacities that are unable to create nature in knowing it and those that are unable to destroy the spirit in knowing it.

Here I have simply sketched for you the path, something that must lead us directly from a normal, though instinctive, more deeply stimulated consciousness into a relationship of the human being to nature. We will see in the further course of our presentations that this path suggested here can lead us to what actually must be sought in the transition from physiology to pathology.

I hope that it will no longer be necessary for me to be the speaker tomorrow, but if that turns out to be the case I will try in the course of the next few days to continue at least sketchily the considerations begun this evening.

Physiology and Therapeutics 2

Today I wish to make a link with what I said yesterday at the conclusion of the lecture. I pointed then to a personality who was driven by his philosophical instincts, as it were, from knowledge of the soul-spiritual into an intimation of the connection of this soul-spiritual with the physical-bodily existence of the human being. This was [Schelling](#). I said that out of these instincts Schelling not only occupied himself with theoretical medicine but also with all kinds of therapeutic treatments. I do not know whether this resulted in greater or lesser satisfaction for the patient than is the case with many well-trained physicians, for this question of how much improvement in a person's condition can be attributed to therapeutic measures is, in most cases, a very problematic one if it is not looked at inwardly.

This instinct arose in Schelling out of the entire disposition of his soul, and from this he acquired a principle. It would certainly be good if this became a kind of inner principle for every physician, became an inner principle so that the physician would coordinate his entire practical conception of the nature of the healthy and sick human being out of this principle. I quoted Schelling's own words, which show a kind of daring. He simply said, "To know nature means to create nature." Generally what is first noticed when a genius comes forth with such an expression is its quite obvious absurdity, for no one seriously believes himself capable, as an earthly

human being in the physical body, of creating anything out of nature simply by knowing nature. Obviously in technology there is continuous creation, but there it is not a matter of really creating something in the way that Schelling meant; rather, by putting things together, by a composition of the forces of nature, nature in turn is given the opportunity to create in a particular way and through a particular arrangement, and so on. With this sentence, therefore, we have fundamentally to do with an absurdity that a man of genius laid at the foundation of all his thinking.

Yesterday I indicated another sentence that could be contrasted with, "To know nature means to create nature," and this sentence would be, "To know the spirit means to destroy the spirit." This last sentence was probably not expressed by Schelling in such a fundamental way. In modern times, however, a person who once again approaches a spiritual science, developing his own spiritual investigation, sees that both these sentences basically point back to an ancient knowledge from inspiration. Schelling, who certainly was by no means an initiate but simply a man of genius, could arrive at the first sentence out of his instinct. When a person pursues the kind of spiritual investigation that was not being done in Schelling's time, this sentence immediately recalls a resounding from ancient wisdom. Then one is carried over to the other sentence, which resounds in a similar way from ancient wisdom. Neither sentence can be comprehended with

the customary modern intellectual knowledge that we apply in our sciences. Considered either in relation to each other or by themselves, these phrases are absurd. They both point, however, to something of the greatest importance in the human organization, something as important for the healthy condition as for the diseased condition.

When we consider outer nature in relation to the finished processes of nature, we can say nothing more than that “To know nature means at most to recreate nature in thoughts.” Therefore what we call our thoughts bring us no further than recreating nature since they lack the inner formative force; this is what we develop in our thinking, in the soul life permeated by thoughts, by mental images. It has been pointed out previously, however, that this soul life permeated by mental images is basically nothing but what emancipates itself from the physical-etheric organism at the time of the change of teeth, what the human being therefore has within the physical-etheric organism until the change of teeth.

What is active in the human physical-etheric during the childhood years, what truly engages in a creative activity, thus remains in a weakened form, toned down in the soul life as a world of pictures or a world of thoughts or mental images, in short, as a world force in thoughts and mental images, a force in its creative substantiality. It simply sits in our organism; what we know from age seven on simply sits within our

organism in an organizing way. It creates there, but not at all, in the same as we are able to see it creating in outer nature; we see it creating within our own organism. Thus if a child were already a sage and were able to express himself not about outer nature but rather about what goes on within him, if the child were able to look within to his inner nature and penetrate nature there, he would say, "To know this nature means to create this nature." The child would simply saturate himself with the creating forces, would become one with these creating forces. And in his medical instinct, in his physiological instinct, Schelling merely stated something that for the entire later life is absurd; he drew forth something from the age of childhood and extended it by saying, as it were: all this knowing in old age is nothing but a faint web of images; if one were able to know as a child, one would have to say that to know actually means to create, means to develop creative activity. We are able to see this creative activity, however, only in our own inner being.

What is it, therefore, that actually confronts us as creative activity in our own inner being, which is expressed in a genius such as Schelling as I have indicated? It is true, isn't it, that the nature of genius is generally based on the fact that the person retains a certain childlike quality in later life. Those people who age no matter what happens and who take up aging in a normal way, as it were, take it up appropriately never become geniuses. It is people who carry into later life

something of a positive, creative-childlike element who bear the quality of genius. It is this childlike element, this positive creative element, this knowing-creative element that — if I want to express myself in a simple way — does not have time to know things outwardly because it turns the forces of knowledge inward and begins: to create. This is the heritage that we bring with us in entering physical existence through birth. We bring with us the forces of organization, and we can perceive them, as it were, through spiritual science. And a person like Schelling sensed them instinctively.

Anyone who acquires such perception knows that these soul-spiritual forces that permeate the organism in an organizing way in the first period of childhood do not completely cease being active with the change of teeth. They have undergone only one stage. They become suppressed, as it were, to a lesser degree of activity so that later we definitely still retain in us the organizing forces. We have conquered in ourselves, however, the memory-forming element that entered consciousness with the change of teeth, detaching itself thereby from the organization. We have taken memory from its latent state into its liberated state; we have received as a soul-perceptive force our growth force, our force of movement, our force of balance, which were active in a correspondingly heightened degree in the first period of childhood. You can see from this, however, that in normal human development, this organizing force, this growth force,

must be transformed to a degree into something soul-spiritual, let us say, into the force of memory, into the thought-forming force.

Let us assume, now, that too much of this organizing force active in the first period of childhood were held back due to some process; picture a development in which insufficient forces of organization were transformed into the memory-forming force. These forces then remain stuck below in the organism; they are not carried properly into sleep each time a person falls asleep but rather continue to course through the organism between falling asleep and awakening.

If an individual engaged in medical, physiological-phenomenological research in the direction I can only suggest in this short course of lectures, he would be led to the insight that it is possible for forces in the human organism[,] that should actually enter the soul-spiritual at the proper turning-point in life instead[,] to remain below in the physical organization. Then what I spoke to you about yesterday occurs. If the normal degree of organization-forces is transformed with the change of teeth, then in later life we have the proper degree of forces in the organism to organize this organism in accord with its normal shape and normal structure. If we have not done this, however, if we have transformed too little, then the organizing forces that remain below appear somewhere and we encounter new formations,

carcinomatous formations, about which I spoke yesterday. In this way — just as Troxler suggested in the first half of the nineteenth century — we can study the process of becoming ill or of illness that occurs in the moments of transition in later life.

We can then compare this with childhood illnesses, for obviously childhood illnesses cannot have the same origin, because they appear in an early stage of life when absolutely nothing has yet been transformed. If one has learned the origin of illnesses in later life, however, one has also acquired a capacity to observe what underlies the origin of illnesses in childhood. One finds the same thing, in a certain way, only from another side. One finds that there is too much of the soul-spiritual force of organization in the human organism when childhood illnesses arise. To an individual who has acquired the capacity to perceive along these lines, such things appear especially significant when considering the phenomena of scarlet fever or measles in childhood. With these he can see in the child's organism how the soul-spiritual, which otherwise functions in a normal way, begins to stir; he sees how it is more active than it should be. The whole course of these illnesses becomes comprehensible the moment one really sees this restless stirring of the soul-spiritual in the organism as the basis of illness.

Now, I beg you to consider my next sentence very

precisely, for I never go a step further than is justified by the deliberations preceding it, even if much may be suggested only sketchily; everywhere I merely indicate how far one can go, so I am not drawing a conclusion here. I am simply saying that now one is not far from recognizing something that is extraordinarily important to recognize for a true knowledge. First we must arrive at the point of recognizing that in an illness of the human organism during later life, one that goes in the direction of new formations, there is too much of the organizing force that results in an island of organization, so to speak. When we have reached this point we are not far from saying that, if the later period of life points in this way back to earliest childhood, this indicates ultimately that what reveals itself in childhood points back to the time before birth or, let us say, before conception; it points back to the soul-spiritual existence of the human being before he was clothed with a physical body. A person suffering from childhood illnesses is simply someone who brought along too much of the soul-spiritual from his prehuman, pre-earthly life; this excess then lives itself out in the childhood illnesses.

In the future there will be no choice but to allow oneself to be driven beyond the fruitless, materialistic approaches in which physiological and therapeutic matters remain stuck today, to be driven on to a soul-spiritual approach. It will soon be seen that what arises in spiritual science does not occur because the spiritual investigator is too little grounded in

physical research, because he is, as it were, a dilettante in physical research (though I must add parenthetically that many who call themselves spiritual investigators are, in fact, dilettantes, but this is not how it should be). It is not necessary for the spiritual investigator to be grounded too little in physical research in order to become a spiritual investigator; rather he must be even more immersed in physical research than the ordinary natural scientist. If he sees through phenomena more intensively, he will be driven by the phenomena themselves into the soul-spiritual, especially when it comes to illness.

The sentence, “To know the spirit means to destroy the spirit,” is actually an absurdity similar to the first sentence, yet this sentence also points to something that must be recognized, that must be penetrated. Just as the sentence, “To know nature means to create nature,” points us to the first age of childhood, and actually to life before birth — if we extend it in the right way — so the sentence, “To know the spirit means to destroy the spirit,” leads us to the end of a person’s life, to what kills the human being. You need only hold to this sentence in a paradoxical way — “To know the spirit means to destroy the spirit” — and you will find how one must not follow it but how it nevertheless exists in life as something continually being approached asymptotically.

For an individual who doesn’t simply grasp knowledge

aggressively but develops self-perception in the right way, to know the spirit means to see continual processes of breakdown, continual processes of destruction in the human organism. When we look into the creative age of childhood in the same way, we can see continuous upbuilding processes, but upbuilding processes that have the peculiarity of actually dimming consciousness. Therefore we are dreaming, we are half-asleep in childhood; our consciousness is not fully awake. Our own earthly spirituality, namely the conscious spirituality of pressing back the growth activity, is what actually organizes us inwardly. The moment this force enters consciousness, it ceases to permeate us with organizing forces to the same degree as before.

In looking into the age of childhood one witnesses the work of upbuilding forces, though forces that weaken consciousness; in the same way one witnesses the breakdown processes when surrendering oneself to perceiving the developed thinking processes, but these breakdown processes are particularly suited to making our consciousness clear and luminous.

Modern physiological science pays little attention to this, although this is perfectly obvious in physiology's revelations, as obvious as can be. If you direct your attention to the real revelations of modern physiology, you will see that everything known about the physiology of the brain makes it quite clear

that with soul-spiritual processes occurring consciously we do not have to do with any kind of growth forces or forces that take up nourishment; rather we have to do with processes of elimination in the nervous system, with breakdown processes, with a continuous slow dying.

It is death that is active in us when we surrender ourselves to what is spiritually active in our consciousness. And just as we look through the unconscious creating forces to the beginnings of life, so we look through the conscious conceptual forces that reveal themselves as destructive forces; they reveal themselves as what begins to take hold of us more and more as we grow into earthly life, to break us down, and finally to lead us to confront earthly death; we see through these forces to the other end of life, to death. Birth and death — or, let us say, conception, birth, and death — can only be understood by taking the spiritual into consideration.

And what wants to be expressed in the sentence, “To know the spirit means to destroy the spirit,” is this: if a person wishes only to gaze into the spirit, to take it up more or less naively, to take it up in the same way that outer nature is taken up, then that individual would have to dam up what is active in this thinking, conceptual, sensing and feeling activity; the breakdown would have to be prevented. This means that in such a moment a person would have to diminish, to

weaken, the power over the spirit, the inner consciousness, to the point of unconsciousness, to a working of the spiritual in unconsciousness. He would have to come to the point of forming something spiritual out of himself, of pressing something spiritual out of himself, as it were. To do this, however, he could not remain conscious, because the organization cannot be carried into this breakdown process, into this spiritual process.

Thus we can say that on the one hand we have the processes of organization that consist of the fact that we have the form-skeleton of the human organism, as it were (see drawing a), into which the organizing force (drawing b, red) enters as something spiritual. (Of course this is now considered abstractly.) On the other hand, as I have described in the second case, we have the form-skeleton of the human organism, but we do not wish to allow it to be permeated by the organizing force, by the force that weakens our consciousness to a certain extent: instead we wish to drive out the organizing force, which we now want to know as spirit (see drawing c). We cannot go along with our ego, however, because this is bound to the organism.

Drawing



We have the other side as well, the side in which man clearly begins to develop the spiritual, that is, to develop will activity in the spiritual. This permeation with will activity remains unconscious, sleeping, as it were, dreaming; based in this permeation with will activity is a soul-spiritual element that we actually bring forth from our organization without consciousness. Here we have the other side, the manic side, the frenzied side, in which the human being goes mad; we have the varying forms of the so-called mental illnesses. Whereas with physical illnesses we have a soul-spiritual element that does not belong in the physical organism (drawing b), with the so-called mental illnesses we have something in the psychological realm that drives out of the physical-etheric something that should remain within it (drawing c). Something is driven out of the organism.

Drawing



Today we will see what we arrived at yesterday illuminated from the other side. This viewpoint can lead us still further. We will see tomorrow the fruitful therapeutic consequences that can be arrived at particularly from this viewpoint, consequences that can then be confirmed absolutely in life, proving themselves in the most outward practice of medicine, in practical therapeutic measures.

If we are looking for the cause of physical illness, we must ultimately seek it in the spirit going astray in the organism. This should certainly not be pursued abstractly. Anyone who does not understand the relationship between the soul-spiritual and the physical organism should really stay quiet about these matters. Only with knowledge of the soul-spiritual element can one come to know the specific aspects of this: where in one organ or another there is too strong a force of organization, a hypertrophied force of organization, as it were; these details can be arrived at only if one knows the soul-

spiritual concretely. The soul-spiritual element is made concrete in the same way as the physical-bodily element in the liver, stomach, and so on, and one must know this soul-spiritual element (of which psychology has no intimation) with its constituents, its members, just as well as we know the physical-sensible. And if the relationships between the two are known, then one can often indicate — even out of the soul-spiritual findings encountered with the human being — where there is some kind of excessive organization in a particular organ. In every case that is not the result of an external injury, such an origin can be indicated.

On the other hand, if we are considering the so-called mental illnesses, we remain purely in abstractions if we believe that anything can be gained from a half-baked phenomenology, if we believe that simply by describing soul-spiritual abnormalities one can arrive at anything (though to describe them is, of course, most useful). With such descriptions one can naturally create a sensation among laymen, because it is always interesting to learn how a person who has gone mad deviates from life's normal standard. Anything unusual is interesting, and in our time it is still rare to deviate in this way from normal life. But to remain stuck in simple description should not be the important thing. It is particularly important not to press on from that point to the dilettantish judgment that in such cases the soul and spirit are ill and that the soul and spirit can be cured somehow by soul-

spiritual measures, as is commonly dreamed up by those who remain stuck in abstractions.

Indeed not. Particularly with the so-called mental illnesses it is absolutely clear that in every case one can indicate where the diminished organization of some organ resides. An individual who truly wishes to know the nature of melancholia or hypochondria driven to the point of mental illness must not wade around in the soul element; he should rather attempt to determine, from the condition of the abdominal organs of the person in question, how the diminished organization is influencing the person's abdominal organization. He should attempt to determine how a force of organization that works less strongly than normal allows something to precipitate out, so to speak — just as in chemistry one precipitates something out of a solution so that a sediment occurs — how a diminished force of organization in the physical-bodily element, which would otherwise be permeated by the force of organization, precipitates something out and how this precipitate is then present in the organism as something physical-bodily, how it is deposited in what takes place in the liver, gall, stomach, heart, and lungs. These processes are not so accessible to investigation as one would like nowadays, when people prefer to stick to the crude aspects — for histology also remains at the crude level. Psychology is necessary to such an investigation, but in every case it is necessary to lead the study of so-called mental illnesses back

to the bodily condition.

Of course such illnesses may seem less interesting as a result, but this is nevertheless the case. It naturally seems more interesting if a hypochondriac can say that his soul life is active in such-and-such a way in the soul-spiritual cosmos than to say that there is a diminished force of organization in his liver. It is more interesting to look for the causes of hysteria, let us say, in the soul-spiritual; it is more interesting than if one simply points to the metabolic processes of the sexual organs when speaking of hysterical phenomena or if one speaks of irregularities in the metabolism that spread throughout the organism. Little will be learned about these things, however, if the investigation is not pursued in this way.

Spiritual science is not always simply seeking the spirit. This can be left quietly to the spiritualists and other interesting people — interesting because they are rare, though unfortunately they are not rare enough! Spiritual science does not incessantly speak about spirit, spirit, spirit; rather it attempts really to lay hold of the spirit, and it tries to pursue its effects and succeeds by means of this in reaching the correct place for a comprehension of the material. It is certainly not so arrogant as to try to explain mental illnesses abstractly by mental means; instead it leads, particularly in the case of mental illness, to a material grasp of mental illness.

One may thus say that it points in a clarifying way to some interesting phenomena. One need not look back very far — perhaps still with Griesinger and others, or in the pre-Griesinger era in psychiatry — to discover that not so long ago psychiatrists also at least incorporated the bodily condition in their diagnoses. But what has become more and more common today? It has become commonplace for psychiatrists to flood us with descriptions of illness in their literature that merely describe the soul-spiritual abnormalities, so that here materialism has actually led us into an abstract soul-spiritual domain. This is its tragedy. Here materialism itself has led away from materialism. This is what is so remarkable about materialism, that in certain regards it leads to a misunderstanding, to a lack of comprehension of the material world itself. One who pursues the spirit as a real fact, however, also pursues it where it works its way into the material and where it then withdraws so that the material is deposited, as in the so-called mental illnesses.

I had to present these things as a foundation in order to offer guidelines in relation to the therapeutic aspect tomorrow. What we discover when the physiological therapeutic domain is fructified with spiritual science also has a social aspect. Life is remarkable in that everywhere we are driven into the social element if we are not seeking the scientific in an abstract withdrawal, in an academic existence estranged from life, but rather in the life-filled comprehension of human existence, of

human community, if we are seeking with a truly living science. As an example, we have an extraordinarily interesting social phenomenon in recent evolution: through the split of humanity upward into a bourgeois aristocracy and downward into the proletariat, we can see how the one-sided aristocratic nature is taken hold of by a false seeking after the spirit, by materialism in the spiritual realm, while the proletarian nature is taken hold of by a certain spiritualism in the material realm.

What does that mean — spiritualism in the material realm? It means remaining stuck when seeking the origins of existence. The proletariat has thus developed scientific materialism as a view of life at the same time as the aristocratic element has developed the teachings of the spirit materialistically. While the proletariat has become materialistic, the aristocracy has become spiritualistic. If you find spiritualists among the proletariat, they did not grow out of their own proletarian soil; rather it is a mimicry, it is simply imitative, merely something that penetrated the proletariat by an infection — I will speak about infection tomorrow — with the aristocratic-bourgeois element.

And if you see among the aristocracy the development of materialism, coming to behold spirits materially as one looks at flames, so that materialism is carried into the most spiritual, wanting to see the spiritual materially, then we see this

growing out of the original, decadent one-sidedness that emerged from the universally human, from the totality inclining to the aristocratic, to the bourgeois element, infected by the aristocratic element.

If what applies to the spirit is compelled to remain in matter, because it has not been drawn out by an appropriate education or the like, if in its spiritual seeking the proletariat is compelled to remain in matter, then materialism develops as a view of life. Materialism was developed by the proletariat as a view of life in the materialistic understanding of history, for example. Materialism was developed by more aristocratic people as spiritualism, for spiritualism is materialism, masked materialism, which does not even remain honest enough to acknowledge it; instead it lies and maintains that those who profess things materialistically are actually spiritual. After this divergence, we will continue tomorrow with our studies.

Physiology and Therapeutics 3

In the short time available to us for this therapeutic portion of our meeting, it will naturally only be possible to speak in a general way about specific therapeutic measures. On the other hand, it is always questionable whether one should speak in detail about specifics, especially in medicine, if one is not speaking to a purely professional audience, as was the case when I gave a series of lectures in the spring (see Note 1). For the future development of humanity, it will indeed be necessary that the widest circles are familiar with the guiding principles of healing in order that a trusting relationship, well-grounded in facts, may develop between physician and patient. Though it will be necessary for such an understanding of the guidelines for medicine and social hygiene to be sought in the widest circles, it will nevertheless remain undesirable for an excessively dilettantish and lay judgment to intervene in medical matters; due to the state of medicine in modern times, this happens far too frequently today.

It must be firmly stressed that I have absolutely no intention of encouraging any kind of quackery. Within our anthroposophically oriented spiritual science we must instead strive to bring spiritual scientific knowledge into a true medical art based on a methodical study of medical science. We therefore will not align ourselves with those who, out of an unlimited ignorance concerning what they are actually speaking about, attack nearly everything they call academic

medicine and the like. We should certainly not align ourselves with these people.

Something else must also be considered in discussing matters like those that will be raised today. Though in a certain sense this has been the case for a long time, something has permeated medicine particularly in modern times; this aspect has asserted itself in our time with all the vehemence with which matters tend to assert themselves in our chaotic social order: this is the formation of partisan groups even within the medical field. And these parties struggling among themselves are no better than political parties. In general it is quite clear that this cannot support the development of medicine. The battle between the allopaths and the homoeopaths, between the so-called academic physicians and those using natural remedies and so on, has generated a great deal of confusion in the understanding of medicine that is required in the wider circles of humanity. I needed to make these introductory remarks today so that what I have to say will not be placed on false ground.

I have already directed your attention to how, on the one hand, the soul-spiritual stands within the human process of organization; this then proliferates, as it were, in the physical processes of illness so that the soul-spiritual cannot work separately from the physical organ, as it should, thus wreaking havoc in it. When this happens we are faced with all

those illnesses that tend toward new formations in the organism .

By contrast, we are also concerned with illnesses in which the soul-spiritual develops in such a way that it does not take sufficient hold of the physical organism, whereupon certain parts of the physical organism are abandoned, not to processes taken hold of by the human organization but to subordinate processes of natural existence. In this way organs “physicalize” — if I may use such a word — to an excessive degree rather than permeating themselves soul-spiritually. The soul-spiritual then flows out without being encompassed in the right way by the ego-consciousness, and as a result all the forms of illness arise that we designate inaccurately as mental illnesses (see Note 2).

This view must be modified, however, the moment one proceeds from a sound physiology to a sound pathology and therapy; it must be modified by being developed still more precisely. It must incorporate the view of the nature of the human being that has been presented here repeatedly, though in very different connections from those we require today: this is the view of the threefold nature of the human organism.

On the one hand we have to do with a threefold nature of the soul being: in forming mental images, in feeling, and in will

impulses. This threefold nature of the soul being, however, corresponds very precisely with a threefolding of the physical-bodily being: a kind of head system or nerve-sense system, a rhythmic system, and a metabolic-limb system. I must stress particularly that this constitution of the human organism must not be understood merely intellectually but through inner perception. A person would be unable to comprehend how matters actually stood if he remained with an external picture, if he understood the head system as something that simply ends at the neck, the circulatory or rhythmic system as being encompassed by the trunk, while the digestive system encompasses the limb system, the sexual system.

What is important here is that while the nerve-sense system is located primarily in the head, it nevertheless extends over the entire remaining organism as such. We may thus say that when we speak here with an anthroposophical purpose about the nerve-sense system, it is the system of functions in the human organism (for we are concerned here not with spatial limitations but functional limitations) that is located essentially in the head; nevertheless the head activity extends over the entire human being so that in a certain sense the whole human being is head. The same is true for the other systems. It was thus mere foolishness when a superficial professor of medicine, who did not intend really to study these matters but only wished to discredit them to the world, spoke about the “belly-system” in order to ridicule what is actually referred to

by the metabolic system. He has merely shown his total lack of understanding for how the threefold constitution of the human being is functional, and not defined by spatial limitations.

When an individual really understands this constitution of the human being — about which many lectures could be given to describe it in full detail — he reaches the point of being able to perceive clearly the distinctions between the head system, and therefore the nerve-sense system, on the one hand, the metabolic-limb system on the other hand, and the mediating system, the rhythmic system, whose essential role is to bring about the balance between the two other systems.

If we thus wish to encompass the entire nature of the human being, we must consider the following. The actual conceptual and perceptual activity of the human being has as its basis — one cannot even say as its tool, but as its physical basis — everything that takes place physically in the nerve-sense system. It is not the case, as is suggested by modern psychology and physiology, that those processes connected primarily with the feeling and willing systems also take place in the nerve-sense system. Such an opinion does not hold up before a more precise study of the issue. You will find such a precise study, at least suggested in its outlines, in my book, *Riddles of the Soul* (see Note 3).

Much detailed work must still be done in this regard, however. Then what spiritual science has to say with certainty from its side will be elaborated from the other side, from the physical-empirical side. It will become clear that man's feeling is not connected in a primary way with the nerve-sense system but with the rhythmic system, that just as the nerve-sense system corresponds to mentally active perception, so the rhythmic system corresponds to feeling. Only through the interaction of the rhythmic system with the nerve-sense system, by the roundabout route of the rhythm in the cerebral fluid, pulsating against the nerve-sense system, is the nerve-sense system engaged as the carrier of the conceptual life. Then, if we raise our feelings to mental images, the dull, dreamlike life of feelings is perceived and pictured by us in an inner way. Just as the life of feeling is directly connected with the rhythmic system and is indirectly mediated by it, so the life of will is connected directly with the metabolic system. This connection in turn acts in a secondary way, since metabolism takes place also in the brain, of course, so that the metabolic system in its functions presses against the nerve-sense system. In this way we are able to bring forth the mental images of our will impulses, which otherwise would unfold in a dull sleep-life within our organism.

Thus you can see that in the human organism we have three different systems that carry the soul life in different ways. These systems do not simply differ from one another;

they actually oppose each other (as I said, I can only sketch these matters today) so that on one side we have the nerve-sense system and on the other side all that constitutes the functions of the metabolic system, the metabolic-limb system (see drawing). Regarding the connection of the metabolism with the limbs, you can arrive at appropriate images if you simply consider the influence of the moving limbs on the metabolism. This influence is much greater than is ordinarily assumed in outer consciousness.

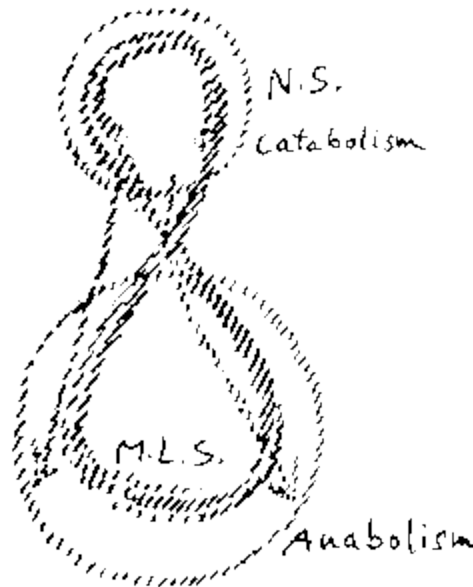


These two systems, however, the nerve-sense system and the metabolic-limb system, are in opposition, are polar opposites in a certain way. This polar opposition must be studied carefully in order to arrive at a sound pathology and therapy, particularly a pathology that could lead organically over into therapy; it must be studied carefully in all its countless individual details. If one enters into the detailed effects, it becomes evident that what I suggested yesterday is truly the case.

Within everything connected with the head system or nerve-sense system, we have breakdown processes, so that while our conceptual activity takes place in the waking state, when we perceive and form mental images, this activity is not bound up with growth and upbuilding processes but with breakdown processes, processes of elimination. This can be grasped if one looks in a sound way at what empirical-physiological science has already presented concerning this. There is already empirical evidence or to express it better, empirical corroboration — for what spiritual science provides through its perception. You need only pursue what certain inspired physiologists are able to present about the physical processes in the nervous system, which unfold as parallel phenomena to perceiving and forming mental images. You will see then that this assertion is certainly well supported, the assertion that when we think, when we think and perceive wakefully, we have to do with processes of elimination and breakdown, not with upbuilding processes. By contrast, where the will processes are mediated for the human being in the metabolic-limb system we are concerned with upbuilding processes.

All individual functions in the human being definitely interact with one another, however. If we look at the matter correctly, we must say that the upbuilding processes from below work up into the breakdown processes, and that the breakdown processes from above work down into the upbuilding processes. Then if you pursue this logically you have the

rhythmic processes as a balancing system, as functions introducing the balance between the upbuilding processes and the breakdown processes, rhythmic processes that press breakdown into build-up and build-up into breakdown.



If we do not study the matter purely outwardly, we see that in the so-called blood circulation of the heart, in the aeration of the human body, we have everywhere special processes, as it were, that are somehow interrupted. I cannot go further now into this interruption, which has its purpose, but everywhere we have a specialization of this rhythmic curve that I have sketched here (see drawing). The course of breathing is a special aspect of this curve, the process that you draw if you follow the course of the blood from the heart upward toward the head or respectively toward the lungs and down to the rest of the body. Thus you have a specialization of these processes. In short, if you enliven what is suggested

here, you penetrate into the functional tissue of the human organism, not in the dead way that is customary but in a living way. To do so you must enliven your own mental images. A mobile image of the human organism can thus be pictured. The human organism cannot be encompassed with static, abstract mental images, as modern physiology and pathology would like to encompass it today; it must instead be grasped with mental images in movement, with mental images that can really penetrate into the working of something that has inner movement, that is in no way merely a mechanical interaction of organs situated at rest in relation to one another.

We thus can see that within the human organism there is basically a continuous interaction between the breakdown processes, the deadening processes, and the upbuilding processes, the growth or proliferative processes. The human organization cannot be grasped without this activity.

What is actually present there, however? Let's look at the matter more precisely. If the breakdown process of the nerve-sense organization works into the metabolic-limb system through rhythm, something is present there that works against the metabolic-limb system, something that is a poison for this metabolic-limb system. The reverse is also the case, that what is present in the upbuilding system, working into the head system in rhythm, is a poison for the head system. And since, as I have indicated, the systems are spread out over

the entire organism, a poisoning and unpoisoning are continuously taking place everywhere in the human organism, and this is brought into balance by the rhythmic processes.

We are therefore unable to regard such a natural process as taking its course one-sidedly, in the way that one normally pictures things, so that healthy processes are simply designated as normal. Rather we look into two processes working against one another, where one is a process that is thoroughly illness-engendering for the other. We simply cannot live in the physical organism at all without continuously exposing our metabolic-limb system to the causes of illness from the head system and exposing the head system to the causes of illness from the metabolic system. A scale that is not balanced properly is thrown out of balance by entirely natural laws so that the beam does not rest on the horizontal; similarly life, because it is in constant movement within itself, does not simply exist in a state of balanced rest but rather exists in a state of balance that can deviate in both directions toward irregularities.

Healing, then, means simply that if the head system, for example, is working in a way too strongly poisonous on the metabolic system, its poisoning effect is relieved, its poisonous effect is taken away. If, on the other hand, the metabolic-limb system is working in a way too strongly poisonous on the head system, which means working over

abundantly: then its poisonous effect must also be removed.

It is possible to arrive at a comprehensive view of this realm, however, only if one now extends what can be observed in the human being to the observation of all nature, if one is able to grasp all nature in a spiritual scientific sense. If you look at the plant-forming process, for example, you can see clearly and macroscopically the upward striving of plant-forming processes, a striving away from the center of the earth. You may make a stimulating study of this metamorphosing formative striving of the plants, at least in a rudimentary way, on the basis of the guidelines offered in Goethe's *Metamorphosis of the Plants*. In Goethe's *Metamorphosis of the Plants* there is a sketchy rendering of the first composition, the first elements that are to be studied about the nature of the plant in this direction, but the direction of such a study must be developed further. The initial guidelines must be pursued, for then we may obtain a living view of everything involved in plant growth: when rooting in the soil the plant's upward-striving develops in a negative direction in the root; the plant begins to grow, then grows upward, overcoming the force of attraction of the earth prevailing in the root; then it wrestles through other forces in order to come ultimately to blossom, fruit, and seed formation. A great deal takes place upon this path.

On this path, for example, an opposing force once again

intervenes. The opposing force that intervenes can be well observed if you study, simply to take an example, the common birch, *betula alba*. Pursue very precisely the process that takes place from the root formation through the trunk formation, particularly the bark formation. Consider how, on the basis of everything that works together in the trunk and bark formation, there develops what later comes into manifestation in the leaf formation. This can be studied particularly well in a spiritual scientific way if the still-brownish young birch leaves are studied in the spring.

If this is studied vividly, one also receives a view of forces self-metamorphosing, forces that are active there within the plant. One receives a view of how, on the one hand, there is a formative force active in the process of plant formation that works from below upward. On the other hand it is also possible to behold the force that retards, which in the root still, works strongly as the force of gravity but which, as the plant wrestles itself free from the earthly substance out into the air, is able to work together in another way with the upward-striving force. We then reach an interesting stage, a stage very helpful in understanding how in plant formation during this upward-striving process certain salts, potassium salts, are deposited in the birch bark; this is simply the result of the interaction of the forces working downward with the forces working upward, tending toward protein-formation, you could say, toward what I would like to designate as the albuminizing

force formation.

In this way it is possible to penetrate into the plant-forming process. I can only indicate this here. By looking at how the potassium salts are deposited in the birch bark, how something wrestles itself free from this force drawing downward (a process somewhat comparable to what happens when a salt precipitates out of a solution), coming to the process that takes place when the solution rids itself of the salt, we come to see, to grasp in a living way, the process of protein formation, the process I would designate as the albuminizing process. We thus have a path to study what outwardly surrounds the human being, to study it vividly.

Then when we look back at the human being, we can see how, fundamentally speaking, the human being has the same form of forces in him — if we consider the breakdown process working from above downward — that work from below upward in the plant. We can see that in what is active in the forces working downward from the head system toward the metabolic-limb system there is something like an inverted plant element active within us. We can see that in fact those forces that we see sent upward in plant growth work in a downward direction in the human being. If the human being inappropriately holds back this process of plant formation active within him, so that he doesn't permeate the bodily life in the right way with what is active in the head — the astral, the

ego-being — and if this then penetrates the bodily nature, this penetration expressing itself within the body, then something is held up there, something that should proceed into the human organism. We thus have to do with a pathological phenomenon like that which confronts us, for example, in cases of rheumatism or gouty conditions. If we study what is brought about in the human organism when this breakdown process is dammed up in a certain way, we discover its effects in the process of rheumatism, in the process of gout-formation, and so on.

Let us now shift our gaze again from within the organism to a process of plant formation like the one we have in the *betula alba*. From this we can arrive at the following. We look on the one hand into what takes place in salt formation and on the other hand into protein formation. We find, if we understand this process of protein formation in the right way, that the opposite process is within it and is held up there. We find held up in the organism that process which should take place in a way similar to the correct process of albuminizing in the leaves of the birch. We are thus able to come to the relationship between those processes that take place in the birch leaves, for example, and the processes within the organism if we process what is in the birch leaves into remedies. We can then give these remedies to the human being, by means of which we can bring about a healing, because the remedy correctly opposes this damming-up

process that occurs in rheumatism and gout. In this way we look both at what is taking place outside in nature and at what takes place within the organism, and then we arrive at an idea of how we should guide the healing forces.

On the other hand we can see instances when the breakdown processes proceed in such a way that the organism cannot restrain them so that they pour themselves downward, and the rhythmic system does not press them back in the right way; they thus reach the periphery of the body pressing outward, as it were, toward the skin. Then we get inflammatory conditions on the outer portion of the human being, we get skin eruptions and the like. If we now look back again to our plant, to the *betula alba*, we find the opposing process in the disposition of the potassium salts in the birch bark: we thus become able to see how we can fight against the process of skin eruption, which is an excessive function of exudation within the human being, by preparing a remedy from the birch bark.

We are therefore able to study how plant processes, how mineral processes, are active, and we grasp the connections between what is outside in nature and what is active within the human being. In other words, medical empiricism, therapeutic empiricism, ascends to what [Goethe](#) calls in his sense — not now in the intellectual sense but in his sense the rational stage of science. We arrive at a science as therapy,

which is able really to penetrate into the connections.

These things are not so simple, for one must study things in detail, at least in accordance with certain types, at first in accordance with secret types of the human personality and in accordance with secrets of natural existence. It should not be assumed that if the process has been studied in an example such as the *betula alba*, an overview has already been reached of what needs to be considered. In each different plant-forming process — for example in the horse chestnut or whatever — these formative processes will manifest themselves in an essentially different way. What has been indicated here should not in any way lead to a generalized twaddle but to a very serious and extensive study.

Now I wish to direct my words particularly to the students here. If this study is undertaken in a rational way, it need not drive you into a panic regarding the extent of study necessary, for if everything now present as examination-ballast falls away — to speak in Paracelsus' terms — and is replaced by something active, leading in this way to a rational view of a therapeutic pathology and a pathological therapy, students will have to study not more but less. And because this study will permeate you with life, it will bring forth a much greater enthusiasm than what leads you to the human being today, yielding only the ability to see organs. Such organs are by no means at rest and can be understood only if they are grasped

in their living function and in their interaction with other organs, can be understood only if this organization is studied and if one strives to enter completely into the functional element. We need an outer natural science that is also striving to reach the functional element.

It is absolutely necessary to study in parallel the inner process in the human being, that peculiar process taking place as poisoning and poisoning effects that have fallen out of balance, and those processes that take place in the natural order. And because the outer relates itself in a polar way to the inner, the outer processes must be used in a certain way polarically. By this means we can be guided into pathology, or, said better, into a therapeutic pathology and a pathological therapy.

I have only been able to suggest here what is necessary to direct the steps needed to heal medical study, and was only able to suggest how spiritual science wishes to work into this medical study. This evening I will give you a few more examples, to show you how intuitively looking together at the outer workings of nature and the workings of the inner organism can lead to therapy and to knowledge of pathology. At that time I would like to go into particular substances.

During the brief time available to me here, I have only been able to indicate the principle, as it were, concerning the

example of *betula alba*, and this evening I will give some further indications, but in every instance I will try to hold myself to indicating only what can add to a general understanding of the human being. Proceeding from this, the physician must move into further specialization. He must enter into the specifics. To deal with specifics always requires an individual evaluation, and here it is only necessary, out of the laymen's understanding of medical directions, of medical principles, for an understanding to grow of what the physician has to undertake within the outer world.

If you consider rightly the course that an anthroposophically oriented spiritual science wishes to pursue in medicine — and I will speak more about this tonight — you will really be able to say that this anthroposophically oriented spiritual science does not wish to encourage quackery and dilettantism; rather it wishes above all to work toward a healing of science, toward a true, serious science that will itself engender social effects.

Note 1:

Rudolf Steiner, *Spiritual Science and Medicine*, twenty lectures given to physicians in Dornach, 1920. Rudolf Steiner Press, London, 1975.

Note 2:

In German, the illnesses, are called *Geisteskrankheiten*, diseases of the spirit as opposed to those of the body. As

Steiner is speaking here of the role of the spirit in bodily-phenomena, it may be helpful to keep in mind the thought of spiritual illnesses, though in the translation we have chosen the more commonly used English equivalent, mental illnesses.

Note 3:

Rudolf Steiner, *Von Seelenraetseln*, 1917. Excerpts of this are published in English under the title, *The Case for Anthroposophy*. Rudolf Steiner Press, London, 1970.

Physiology and Therapeutics 4

Tonight I would like to add a few things to the lectures I have been giving to you in these past few days as a substitute for the scheduled lecturer. I would like to point aphoristically, as it were, to something that may still be able to clarify a principle for the fructification of medical-therapeutic study through spiritual science. Obviously for the reasons already mentioned this morning, I cannot speak too much detail here; that is due not so much to the shortness of time — that too, naturally — but more to the fact that detailed knowledge must be held for a really professional gathering of physicians, again for the reasons I presented this morning.

Nevertheless, I would still like to contribute something in this direction, something that can lead to a general understanding of the nature of medicine so that a kind of social influence can emanate from a spiritual scientific study of medicine, bringing about a certain trust between the public and physicians. The better our understanding of the nature of medicine, the more effectively will medicine be able to work.

This morning I directed your attention to the fact that the life of the human organism consists of the nerve-sense system — the head system — working oppositely to the metabolic-limb system; these two are then balanced by the rhythmic system. All breakdown processes, the completely necessary breakdown processes of the nerve-sense system, are

continuously brought into harmony and exchange with the upbuilding processes of the metabolic-limb system. You can imagine (and this can be verified in detail) that because the two systems of the human organism work in a thoroughly opposite way, they also work upon one another. Thus what goes on in the details of the metabolic-limb system, for example, should not be influenced too strongly from the head system, bypassing the rhythmic system; when this happens an activity suitable only to the head system works its way into the metabolic limb system.

If we adequately penetrate what we are concerned with here, we will come to understand how such intrusions of one system upon the other can take place. It will be understood, in other words, how the head system, the nerve-sense system (in which there must also be metabolic processes, as I have explained to you), can occasionally be overcome by metabolic processes that make the head system resemble the metabolic-limb system inwardly and functionally. The reverse can also take place, because the same functional system that is normally active in the head is also active in the metabolic-limb system, though in a subordinate way. Occasionally this activity can get the upper hand, can become too intense in the metabolic-limb system, where it should only reach a certain level, having its actual significance in the head.

This is possible, in other words, because the nerve-sense

activity that is also present in the metabolic-limb system strongly impregnates the metabolic-limb system with head activity, which thus becomes predominant in the abdomen, for example. Said in a better way, it becomes an activity whose intensity is too great. Then what should normally take place as breakdown processes only in the nerve-sense system will take place in the abdominal organs. Of course it will take on another form in the abdominal system, but it will nevertheless cause mischief there. In fact, by looking in this way into the organization of human nature, we can see in the phenomenon I have just described the development of a serious human illness, namely, *typhus abdominalis*. The manifestations of typhus may certainly be studied empirically, but they can be understood and placed within the entire human organization only if one is able to penetrate the human being in this way from the standpoint of a rational medicine, if I may use this Goethean designation.

I have also shown you this morning how it is possible to make the transition from the physiological-pathological to the therapeutic by attempting not only to penetrate what goes on in human nature but at the same time to penetrate what goes on in outer nature. Processes take place in outer nature which, if penetrated in the right way, can be introduced into the human organism by administering the appropriate substances. Because outer nature — the plant nature, for example — works in a certain way by virtue of its striving

upward, working in an opposite sense to what strives downward in the human being, substances from plants can restrain certain processes that are unfolding improperly among the three systems of the human organism.

It is interesting to explore how what I presented to you this morning about the plant world and its connection with the human being can be penetrated in a similar way in relation to the mineral world. In order to penetrate this matter in relation to the mineral world, however, we must first gain certain anthroposophical understandings of the human being.

The soul-spiritual, the etheric, and the physical are all active in the human being. As we will have been able to discern through the considerations in these lectures, this soul-spiritual element works in such a way that it can be penetrated by full ego-consciousness. If this is the case, the human being is organized in the normal way, as it were. On the other hand, the ego-consciousness may be weakened, may step back in some way. If the soul-spiritual element kicks up some kind of fuss, going its own way without being penetrated in the right way by the ego, then various types of the so-called mental illnesses arise.

Everything that is soul-spiritual in the human being, however, as well as what in anthroposophical terminology is called the astral — that is, the more subconscious, dreamlike,

or entirely unconscious soul life — and also what is understood as ego-activity, as the fully conscious soul life, has its physical carrier by means of which it works in a certain way in physical life. We may therefore say that if we study the human being we must direct our gaze not merely to what expresses itself as ego-activity, which is a purely spiritual activity we must rather direct our gaze to the actual, carrier of this ego-activity in the organism. We find that the actual carrier of this ego-activity is essentially anchored in the blood.

I could certainly demonstrate to you in detail how, especially through the particular activity of the blood, through the working together of the metabolic activity in the blood with the rhythmic activity in the blood, the ego works with the rest of the soul element, but to go into this now would lead too far. What should interest us more right now, however, is the bridge from physiology and pathology to therapy. There we find something exceptionally important. We can influence the physical scaffolding, as it were — the physical carrier — of a soul-spiritual element, of the fully conscious ego, let us say, through certain processes that we bring about in it. The physical carrier then withdraws from the ego-activity, as it were, yet continues to perform a function similar to what otherwise takes place only under the influence of the ego-activity.



Drawing 1

Let me refer to a specific case in this connection. Imagine, please — I will sketch this for you — that what is active as ego-activity builds up, through the human blood system, something like a scaffolding, a scaffolding of forces. I will designate the ego-activity itself by these colored lines next to the line of this force-scaffolding, the line that designates the soul-spiritual element of the ego-activity (see drawing, red). If one can now influence the force-organization lying at the basis of the ego-activity in a certain way, it could be possible for this force-organization to become independent, as it were, to tear itself away and as physical activity, as scaffolding of physical force-activity, to separate itself from the soul-spiritual and yet remain like an image of the soul-spiritual activity, though working merely physically. In a certain way we thus incorporate into ourselves a kind of double that works deeply in the subconscious but that work; similarly — though only in space, which means only physically — to the way it normally

works when surrendering itself as an unencumbered instrument for the ego-activity.

This can be brought about by introducing too much phosphorus into the human being, by administering to someone a powerful dose of phosphorus. (This does not actually need to be done; in elementary cases one can already see this. It is always possible to find the point designated by Goethe as the one behind which nature reveals its manifest secret, if one follows the appropriate path.) It is possible to separate out the bodily carrier of this ego-activity from the ego-activity itself. Then this ego-activity is carried out in the body as in an image. What would be the result of this? The result would be that, particularly under the influence of the phosphorus forces, the blood activity would proliferate beyond its normal extent, particularly in the bony system. In the bony system a kind of hyperemia would arise. In this way, through this hyperemia, an excessive blood activity in the region of the bone cartilage would run rampant, and the calcification process of the bones would be opposed.

I have described to you what could result from treating someone with too much phosphorus, where the function that phosphorus is normally able to fulfill in the human organism is excessively enhanced. Those forces that are outside in the world, however, anchored in the different minerals, are present in the human being in another form, as it were, in a

super-sensible form, and they can be active within the human being. Man is a microcosm in a certain respect. If these forces that are normally anchored in phosphorus outside in nature are active within the human being, as can occur particularly in early childhood, then the illness rickets occurs. By penetrating the connection of the human being with the surrounding world, we have been able to ascertain that the manifestation of rickets in the human organism is a process similar to the one that takes place outside in nature in the manifestation of phosphorus. I am speaking to you aphoristically and obviously in a way in which not all the parts of a sequence of proof are connected; by means of a specific case, which is actually only indicating the direction, we can see how to search in a spiritual scientific way for this connection between the human being and the rest of the world.



Drawing 2

Now, however, it is possible to proceed further. I have shown you earlier today how, with the metabolic-limb system on one side and the nerve-sense system on the other side, the balancing rhythmic system in between, these two systems work together in a way (see drawing). You see, in fact, that what serves as an irregularity in the metabolic-limb system, bringing about illness, is just what induces health in the head system. Thus in the human head system there are always certain functions that stem from phosphorus, though from a very slight quantity of phosphorus that is found in the human brain. We have already become acquainted with this phosphorus-activity from the other side, in the way I have described to you, as something that brings the proper breakdown in the calcification processes in the metabolic-limb organism. These phosphorus processes in the brain, however, must be present wherever there is to be breakdown and where, above all, this breakdown is to be continually active. In other words, because the phosphorus process is present in the brain, we continuously have a kind of manifestation of rickets in the brain in, you could say, a status nascendi.

This is precisely the basis of our brain-activity, that bone continuously wants to be formed, but this bone formation is continuously inhibited once the skull has developed to surround the human brain in the right way. In the human brain — and this reveals itself to human perception — we have a

continuous striving toward bone formation, but this bone formation reaches its conclusion at a certain age, at which time this activity of bone formation ceases. We thus have here something that is really conducive to illness but that is balanced from the other side, from the other pole of the organism; we have here a continuous striving toward rickets.

It is interesting that a rhythm such as this one that can be observed in the human being is also present outside in the rest of nature, though appearing in a certain respect as the opposite. If we look at the remarkable significance of phosphorus for the human brain, we have to say to ourselves that as phosphorus is taken in it is worked through up to the head. It undergoes a transformation within the human organism itself. It follows the same direction as the growth in the human being. It incorporates itself into this direction of growth in the human being, thus reducing its own activity to a minimum, as it were, diluting it. By means of this dilution the restrained rickets of the head can become the carrier of just those soul-spiritual processes that must be undertaken by means of the human head's mediation.

It is interesting that if very small doses of phosphorus are administered to the human being in the right way, rather than the somewhat larger, ordinarily perceptible doses of phosphorus, something different is achieved even in the function of phosphorus. If these small doses are administered

to the human organism, they work in the same way as phosphorus works in the human brain. They now work in the rest of the organism as small doses able to restrain the rickets process if it has begun in children. Phosphorus in small quantities, in the smallest doses, can therefore serve as a remedy against rickets. In a more comprehensive sense, phosphorus can generally be used as a remedy against everything in which this ego-scaffolding, the physical ego-scaffolding (see Drawing 1, white), which I have sketched under the red, is freed within the organism, as a result of illness, from the actual soul activity: in other words, phosphorus brings back the soul activity, returning the condition to normal.

I would have to present a very complicated exposition about human nature for you to be able to see what actually lies at the basis of the dispute between allopathy and homoeopathy. In certain areas, however, you could say that what homoeopathy reveals becomes perfectly evident, as in these cases I have indicated to you. With certain small doses of phosphorus, or also sulphur (in short, something combustible — I will return to this) rickets as well as other inflammatory conditions can be healed, illnesses that stem from a blood-activity that has been freed from the ego-being.

You see, then, that when we begin to study the human being as suggested by spiritual science, as in this case, the

connection of the human being with outer, inorganic nature becomes transparent. What I have just touched on here today can definitely be extended to other inorganic substances. One need only pursue this in detail. It is precisely this attempt to bring about a union of pathology, physiology, and therapy that requires a devoted study of the world within and the world outside of the human being. We may call phosphorus and sulphur combustible substances. If this study is really extended further, combustible substances reveal themselves as working in a way thoroughly akin to what has been described of phosphorus. They work so as to re-insert the emancipated ego-scaffolding into the ego-activity.

Certain salts work in the opposite way, substances now that are not combustible but that dissolve in water and then precipitate out again when the water is cooled. These salts, carbonates and other salts, work in such a way that they call forth a too-intense union of the soul-spiritual, particularly the ego-activity, with the scaffolding; they do not loosen it from the scaffolding but rather impress the soul-spiritual too strongly into it. They can therefore be used as remedies if this connection is for some reason too loose.

We can therefore say that if we understand the actual results of introducing a substance into the organism, how it influences the entire organization, then we can see how to work against a process that is proceeding abnormally and

must be countered.

For certain processes, for example the process lying at the basis of pulmonary tuberculosis, it is precisely such salt-like substances (therefore soluble substances) that are particularly effective. What pulmonary tuberculosis is demanding is something to work against a process which, in the human organism, is the opposite of what takes place when a salt dissolves into a solution. What is important here is that broadening one's knowledge about all of human nature leads into the human being's connection with all his outer, worldly environment.

In these thoroughly aphoristic considerations I can only offer examples. What I have just been speaking about could be illustrated by still other examples. We can find such examples everywhere, but let us take an example from a realm that can at the same time lead us into the whole connection of the soul-spiritual with the physical. What is transmitted through the nerve-sense system in human life constitutes the conscious life of the human being from waking to falling asleep. We are thus able to say, more or less, that the head system is the expression for the conscious life of the human being. The metabolic-limb system is not the expression for the conscious life of the human being in the same way. We go through the world with conscious head but with unconscious limbs. These limbs become conscious only

when they are touched in some way, when they endure an insult of some sort. We may therefore say that the normal condition for the head system, for the nerve-sense system, is waking consciousness, whereas for the opposite system in the human being it is unconsciousness. It is possible, however, to produce artificially in the human being a kind of consciousness for this other system, for the metabolic-limb system. This happens through massage, for example, which consists of making conscious through outer measures what otherwise remains unconscious. What is important here is that through massage an improvement can be brought about of an inadequate connection between the soul-spiritual and the physical. Take the case of a person who has a tendency to illness because his soul-spiritual element is insufficiently inclined to penetrate his metabolic-limb system. Then the physical aspect of this metabolic-limb system can be supported by massaging it, by lifting it, to a certain degree, from the condition of the spiritual into the condition of consciousness; the effectiveness of the system is thus supported, thereby calling forth a stronger permeation of this system by the soul-spiritual.

If it is understood how this metabolic-limb system works, if it is known, for example, that what pulses in the arms and hands, what pulses there as the soul-spiritual element, continues inwardly and rules the inner metabolism of the human being, then it will also be known what it means to bring

about a partial consciousness in the arms and hands through massage. It means that the soul-spiritual element in the metabolic system is enhanced — the metabolic system that works within the human being in a constructive way, bringing about digestion, the taking up of substance.

If one finds, therefore, that a person is suffering inwardly and organically from metabolic disturbances, metabolic disturbances that are responsible for the inability of his nourishment to integrate itself properly in the body or for the results of this nourishment to proceed further into the upbuilding processes, if one finds, therefore, that the metabolism that proceeds inward is not working properly, then it is possible in certain cases to be of some help with arm and hand massage (of course detailed knowledge is necessary to carry this out in the right way). Such assistance consists of supporting the soul-spiritual element in its activity through the degree of consciousness brought about by means of the massage.

If the legs and feet are massaged, something else occurs. The soul-spiritual element that permeates the legs and feet is connected organically with processes of elimination, with breakdown processes. One will be able to offer assistance with a massage of the legs and feet, therefore, if the digestion in the direction of the process of elimination is not being accomplished in the right way.

You can see that if the nature of medicine is illuminated in this way by spiritual science, such insights can be arrived at not simply by chance in an empirical way, should they happen to present themselves empirically; rather it becomes possible to work fully consciously to cultivate the connections among physiology, pathology, and therapy in the most varied domains. I am saying these things to you, as I have mentioned previously, only to illuminate the directions one must pursue here. I know very well how astonishing such things appear because it is not possible, of course, to bring together all the details here.

If we consider an illness like diabetes mellitus, for example, which presents doctors with so many concerns, we must again look to the connection of the soul-spiritual element and particularly the conscious soul-spiritual element, that element permeated with the ego — with the physical carrier of this ego-activity. Something different now takes place from what was described in the first case today. Let us assume that this ego-activity becomes too great within the human organism. It extends itself beyond its proper measure. Then abnormal processes of elimination take place like those we find in the diabetic. In this case we are dealing with an excessive ego-activity in the organic itself, with an excessively deep immersion of the ego into the organic, so that through this deep immersion something is driven outward in a way that manifests particularly in the diabetic.

Let us now shift our gaze again away from what goes on within the human being and direct it to what goes on in the world outside the human being. In this world outside we have plants. This morning we already became aware of how plants in a certain way develop a process from below upward, a process that develops in the human being from above downward. What takes place in diabetes as the hypertrophy of ego-activity in the organism actually proceeds in the direction opposite to that of plant growth. If we are able to discern the right function in the growing plant, then under certain circumstances we can establish a relationship between what works downward in the diabetic and upward in the plant. We must conceive of the plant in such a way, however, that we say: the plant is a being; it is also physical; it grows, it reproduces, and therefore it has an etheric body. For spiritual perception it also has an etheric body, but it does not bring it to the point of inner soul movement; therefore it has no astral body, and also no ego-activity. Nevertheless it grows toward the ego-activity, the astral activity. The same thing that the plant unfolds from below upward the human being unfolds from above downward.

If we understand that we must observe what actually goes on in the plant, seeing how it grows in the opposite direction to which the human being develops his ego, from above downward, then we find how something arises in the plant element that is able to have an inner relationship to this inner

ego-activity through the fact that it also has something to do with combustibility. Earlier I drew your attention to combustible substances. Now we see a combustible, volatile substantiality, a substantiality approaching combustion that develops out of the plant in the etheric oils. If we see the etheric oils appearing in certain plants, then we can discover in a study such as the one I have been suggesting, that this formation of etheric oils is the opposite of the activity enacted by the ego-activity pressing itself into the human organism through which a person becomes diabetic. If what is present in the outer world as the opposite is introduced into the human being in the right way, it is then possible to work against diabetes mellitus.

In this case this must be done by adding these etheric oils to baths, for example, or adding the plants themselves from which these oils are developed, allowing the diabetic to bathe in them. In this way the forces that the plant unfolds in the etheric oils work from outside inward against the forces that bring about diabetes. We will be able to help the person afflicted with this illness particularly by means of such baths.

I am only introducing a few individual examples here out of the rich wealth of examples that could be presented: I offered a large number of them this spring in the course for physicians (see Note). I am introducing them here only to illustrate the principles involved, but you can see from these

examples how medicine can gradually become rational. These are examples through which one really comes to see the process taking place within the human being and the process in outer nature; one comes to see how these two processes either support each other or work against each other and therefore how a process in the human organism can be restrained, how one can work toward healing. If we extend this way of studying into knowledge of the physical human being and its connections with the soul-spiritual human being, we will progress further and further.

You know that in modern medicine, according to the natural scientific view, the problem of heredity plays a tremendous role. This problem, however, is treated in a thoroughly abstract and external way. Through outer science it is possible to make very few connections with what is actually active in human nature. Now I would like to present something to you that can only be arrived at out of a rich anthroposophical investigation. I will present it to you as a result of such an investigation: the human being is, in fact, formed out of the whole rest of the world, which belongs to him as the earthly world and also as the extraterrestrial world. He is formed out of this in various ways. We find, for example, that the female organism is formed out of nature, out of the cosmos, in such a way that there is a predominance in the female organism of those forces that are less bound to the forces of the earth, as it were. In the female organism there is

something strongly extraterrestrial. In the male organism forces are primarily developed that are connected with earthly life. In ordinary life this does not come so strongly into consideration, but it must be considered in reproduction. In reproduction what matters is that the forces active in the female organism and contributing to reproduction are actually the transference of what inserts itself as the extraterrestrial element into general human nature. What draws the human being down into the earthly world, however, is inserted into the male organism.

Now let us consider what is actually present in the human being through his earthly environment. The most noticeable thing in man through his earthly environment is the ego-activity. This ego-activity gives the earthly evolution of the human being its full meaning. We must evolve ourselves from other worlds into the earthly world in order to be able to develop the ego-activity fully in our soul-spiritual element. I have already indicated to you how this ego-activity is bound to the scaffolding of forces mediated by the blood. We must therefore say that what is primarily inserted into the blood, working in accordance with the ego-activity, is brought about by the male personality by way of reproduction. What inserts the extraterrestrial into the human being, which must first be penetrated by the ego-activity, stems more from the female side.

Thus we see male and female working together in this way in reproduction, and only through having insight into this are we able to gain correct concepts of heredity. To begin with, the female seed, the female germ, is touched by the male influence, and this female germ has a certain independence in the female organism. We must say that if we have before us a mature female organism, this extraterrestrial aspect works primarily in the rest of the female organism; in the part of the female organism giving rise to the formation of the germ, it is not active, particularly not after conception. Particularly the female germ that has undergone conception has a certain independence so that what it signifies as a transmitter of the ego-activity is transferred independently onto the descendants in a certain way.

If these things are known, they can be applied so that phenomena confronting us in the outer world illustrate what was first gained through spiritual vision. Through spiritual vision it becomes clear that something extraterrestrial is, in fact, anchored in the female organism and that the earthly, which adheres particularly to the blood-activity, is transmitted through the male organism. It becomes evident that through this transmittal the female ovum gains a certain independence, developing separately, as it were, from the rest of the extraterrestrial female organism by means of the fertilization.

A process such as this, which one comes to know soul-spiritually, can then stand in the background when one wishes to explain a remarkable phenomenon such as hemophilia. The curious fact emerges with this illness that there are people who suffer from an inadequate coagulation of the blood, so that the least injury — often even without a verifiable injury — causes them to lose a great deal of blood, tending toward hemorrhage. This illness has a most unusual characteristic: males originating from hemophiliac families do not manifest the symptoms if they are borne by women from non-hemophiliac families; women from hemophiliac families, on the other hand, do not get hemophilia through heredity, but if they have children, the males to whom they give birth will contract hemophilia. This means that hemophilia passes through the woman. This points us to the independence of the germ, about which I have just spoken. It points us to the outer phenomenon that can illustrate what we came to know through spiritual vision.

I have presented something to you in a narrative way which may be recounted as follows. I have shown you how on the one hand it is possible to look into the being of man through spiritual vision, into the concrete being of man, into his upbuilding and breakdown processes, into his processes of health and disease, which are actually in a continuous interaction and between which a balance must be sought. On the other hand, I have shown you how, through spiritual

vision, it is possible to find the reciprocal relationship of the human being to his environment and thereby to build a bridge from physiology and pathology to therapy. Finally I wanted to show you with a specific example (I have selected an extreme case, hemophilia and the hereditary conditions connected with it) how, if one looks in the right way at nature in the cases where nature reveals her manifest secret, it is possible everywhere to receive an illustration of what was first known by spiritual scientific means. The objection often raised in this regard therefore has no validity; this objection is that a person who cannot yet see into the spiritual world has no way of finding any proof for what spiritual science maintains. This is not the case. What is important is on the one hand to be able to receive the results of spiritual science without dogmatism and belief in authority, and on the other hand to receive them without previously acquired, prejudiced skepticism. One simply receives them. One doesn't say, "I believe them," nor does one rashly refuse them; rather one takes them and verifies them in relation to outer reality.

When you apply what may initially appear paradoxical to you, even incredible, drawn down as it is from the spiritual world through super-sensible vision in spiritual investigation, you will see that if you apply it in life, if you ask life, it will be confirmed in the points that matter. You will receive empirical confirmation everywhere for what spiritual investigation discovers. People today who refuse knowledge of the spiritual

world with the excuse that they themselves are not able to see into the spiritual world are like the person who sees a shaped piece of iron (this was sketched) and says, "I will shoe my horse with that, for it is a horseshoe." If one were to say to him, "It would be a mistake to shoe a horse with it, because it is a magnet, it has magnetic forces," he would reply, "I don't see any magnetic forces — to me it is a horseshoe." The spiritual is in everything material, and we are living in an age in which this spiritual element must be sought. A person who wishes to investigate matter, who wishes to ask questions without seeking the spirit, is like the one who uses the magnet to shoe his horse, who therefore does not really know how things in the material world are to be used.

Though what I have presented to you today had to be full of gaps and aphoristic in nature, I simply wished to indicate the direction in which medical studies must proceed in the future, for these medical studies are so intimately connected with the social question. Just as the human world can be healed socially only if spiritual knowledge is carried into social judgments, so our medicine can bring health only if spiritual vision is carried into it.

We are not dream-spinners in any realm. We do not by any means want dilettantes in any realm. What is important is serious research, research that has developed the fundamental principle often applied today. If a hypothesis is

dangled here or there, it is said that it is merely a comfortable tool for the grasping of phenomena. Even in mathematics the point has been reached of hatching such hypotheses or directions of thought. Spiritual science is firmly rooted in the principle that nothing should be avoided that may be necessary for the progress of human life, that nothing should be avoided in applying forces in the direction of what is required for this. From the course of human evolution it is clearly perceptible today that the signs of the time are saying to us: it is no longer possible to progress in the old tracks.

What we have here in Dornach has only been able to develop because it is no longer possible to progress in the old tracks; new guidelines are to be sought for here. We are specialized enough. What is important now is to bring together the individual specialties again. Perhaps you will see from this course that the spiritual forces that will bring together these individual specialties must flow from a center. In order to do this, however, one must depart from those comfortable paths that are so frequently sought today. The fruits will lie above all in the direction of the progress of humanity. For this reason, I would have especially liked it if everything that has been said here out of spiritual science could have been said also by specialists. Therefore I was not so pleased at having to substitute for you in an important area; this is how things happened, however, and nothing else could have been done, so we must simply accept what happened.

Most important, however, whether a specialist or a general observer were to present what is necessary here, would be to show that even in this difficult area of medicine progress is possible only through fructification by spiritual investigation. This would have been revealed more clearly if someone could have stepped forward in this area who could speak both out of the tradition of the time, out of everything that the time itself is able to offer medicine, and out of an open sense for spiritual science. Such an individual could have shown that it is possible to stand at the pinnacle of contemporary medical science, of official medical science, and still to be such a good spiritual scientist that he can only believe, can only bear this medicine if it can be illuminated by spiritual science. Whether this became sufficiently evident to you, despite the fact that I had to replace the specialists in medicine, I do not know, but I do hope that there will be other occasions to show, in a way illuminated by outer circumstances, that medicine can work into the future only if the spirit penetrates it, as is intended or at least as is striven for here in this Goetheanum: only if the Goethean spirit is absorbed into medicine.

Note

Rudolf Steiner, *Spiritual Science and Medicine*, twenty lectures given to physicians in Dornach, 1920. Rudolf Steiner Press, London, 1975.

Anthroposophical Approach to Medicine 1

I must ask my audience to be considerate with me to-day, because I have only just arrived after a very tiring journey and shall probably not feel able to speak to you adequately until to-morrow.

I want this first lecture to be a kind of introduction to the series I am to deliver here. I had not really intended to speak during the Conference, because I think the stimulus given by anthroposophical research to medicine and to scientific thought ought to be worked out by those who are specialists in the various domains. Indeed, all that comes from anthroposophical investigation in regard to medicine and, for instance, physiology, can be nothing more than a stimulus which must then be worked out empirically. Only on the basis of this empirical study can there arise valid and convincing judgments of the matters in question — and this is the kind of judgment that is needed in the domain of therapy.

These lectures, however, are given at the request of doctors who are working with us and I shall try to deal with just those points where Anthroposophy can throw light into the realm of medicine. I shall endeavour to show, first of all, that an understanding of the human being in health and disease can be enriched and deepened through anthroposophical conceptions.

By way of introduction, I may perhaps be permitted to speak of the sense in which the anthroposophical mode of thought should be understood to-day, in our own age. People so readily confuse what is here called Anthroposophy with older traditional ideas. I have no wish to waste words about the value of these old conceptions, or to criticise them in any way. But it must be emphasised that the conceptions put forward by me are founded on a basis quite different from that of the various mystical, theosophical and so-called gnostic ideas which have arisen traditionally in the course of human history. In order to make myself clear, I need mention only the main points of difference between the conceptions which will be put forward here and those of earlier times. Those earlier conceptions arose in human thought at a time when there was no science in our sense; mine have been developed in an age when science has not only come into being but has reached a certain — albeit provisional — perfection. This must always be remembered if we would understand the meaning and significance of our studies, for it applies to all that may be said and discovered by Anthroposophy in regard to the different domains of human knowledge and capacity.

You all know — there is no need to enlarge upon it — that in those earlier times man had a real but non-scientific conception of the super-sensible world. Medicine, too, was permeated with conceptions of the human being that did not originate, as is the case to-day, from empirical research. We

need go back only to the age shortly before that of Galen, and, if we are open-minded enough, we shall everywhere find traces of spiritual conceptions of the being of man on which medical thought, too, was based. Permeating these conceptions of the form of man, of his organs and organic functions, were thoughts of the Supersensible. According to the modern empirical way of thinking, there are no grounds for connecting anything super-sensible with the nature and constitution of man, but in those older conceptions the super-sensible was as much a part of man as colours, forms and inorganic forces now seem to us part and parcel of the objects in the outer world.

Only prejudice will speak of those earlier ages in the development of medicine as if its ideas were merely childish, compared with those that have been evolved to-day. Nothing could be more inadequate than what history has to tell in this connection, and anyone who has the slightest understanding of the historical evolution of mankind, who does not take the point of view that perfection has been reached and that everything earlier is mere foolishness, will realise that even now we have arrived only at relative perfection and that there is no need to look back upon what went before with a supercilious eye. Indeed, this is patent when we consider the results that were achieved. On the other hand, a man concerned with any branch of knowledge to-day must never overlook all that science has accomplished for humanity in

this age. And when — to use the Goethean expression — a spiritual conception of the human being in sickness and health strives to express itself to-day, it must work *with* and not *against* modern scientific research.

After what I have said, you will not accuse me of any desire to rail against the concepts of modern science. Indeed, I must emphasise at the outset that such a thing is out of the question and for a very fundamental reason. When we consider the medical views that were held in an earlier period of civilisation, we find that although they were by no means so childish as many people imagine nowadays, they did lack what modern science has been able to give us, for the simple reason that man's faculty of cognition was not then adapted to the study of objects as we approach them with modern empirical thought, which is assisted, moreover, by all kinds of scientific instruments. The doctor, or I might just as well say the physiologist or biologist of olden times, had an entirely different outlook from the outlook of modern man. In the ages that really came to an end with Galen, medical consciousness had quite another orientation. What Galen saw in his four elements of the human organism, in the black and yellow gall, in the phlegm and in the blood, was utterly different from the modern conception.

When Galen describes all this and we understand the terminology — as a rule, of course, words handed down by

tradition are not understood — we get the impression of something vague and nebulous. To Galen, it was a reality; in what he called phlegm he did not see the substance we call phlegm. To him, phlegm was not only a state of fluidity permeated with life, but a state of fluidity permeated with *soul*. This was as clear a perception to him as our perception of the red or blue colour of some object in front of us. But precisely because he was able to perceive something outside the range of modern scientific perception, Galen was *not* able to see many things that are brought to light to-day by our scientific consciousness. Suppose, for example, a man with not so very abnormal sight looks through spectacles, and by this means the contours of objects become more definite. As the result of modern empiricism, all that was once seen in a cloud, but none the less permeated by Spirit and soul, has disappeared and given place to the sharp contours of empirical observation. The sharp contours were not there in olden times. Healings were performed out of a kind of instinct which was bound up with a highly developed sensitiveness to one's fellow-men. A sort of participation in the patient's disease, which could even be painful, arose in the doctor of olden times, and on the basis of this he set about his cure.

Now for the reason that the advance to objective empiricism is rooted in the evolutionary process of man, we cannot merely brush it aside and return to the old. Only if we develop certain atavistic faculties shall we perceive Nature as the

ancients perceived her, in all domains of knowledge, including that of medicine. When we pass out into modern culture, equipped with the kind of training given in our elementary schools — not to speak of higher education — it is simply impossible to see things as the ancients saw them. It is impossible, and moreover, if such a thing were to happen, a man would be regarded as being if not gravely, at any rate mildly pathological, not quite ‘normal’ — and, indeed, not altogether unjustly. For there *is* something pathological to-day in all instinctive ‘clairvoyance,’ as it is called. Upon that point we must be quite clear. But what lies in our power is to work our way up to a perception of the spiritual by developing inner faculties otherwise latent in our being, just as in the course of generations the eye has worked itself up from indefinite vision to clear, concrete vision.

To-day, then, it is possible to develop faculties of spiritual perception. I have described this development in my book, [*Knowledge of the Higher Worlds and How to Attain It*](#), and in other writings. When these faculties have developed in a man he perceives, to begin with, a world not previously visible to him, a world embracing a spiritual Cosmos as well as the Cosmos revealed to sense-perception to-day, including all the discoveries and calculations of astronomy. To the material Cosmos that is permeated with natural law, a spiritual Cosmos is added. And when we seek to discover what exists in this spiritual Cosmos, we also find *man*. We contact a

spiritual universe, a universe permeated with soul, where man has his rightful place.

If we pursue ordinary science, we begin either with the simplest living being or with the simplest form of life — the cell — and then trace the simple on into the more complex, ascending thus from what most resembles purely physically organised substance to the highly intricate organism of man. If we seriously pursue Spiritual Science, we begin really at the other end. We descend from a comprehension of the spiritual in the universe, regarding *this* as complex, and the cell as the simplest thing in the organism. Viewed in the light of Spiritual Science, the universe is the summit of complexity, and just as we elaborate our own act of cognition in order, let us say, to pass from the cell to the human being, so do we progressively *simplify* what the Cosmos reveals and then come to man. We go an opposite way — that is to say, we begin at exactly the opposite starting-point — but when to-day we thus pursue Spiritual Science, we are *not* led all the way into the regions embraced by material empiricism. I lay great stress upon this point and hope there will be no misunderstanding. That is why I must ask you to-day to forgive certain pedantic ideas.

It is quite conceivable that someone might think it useless to adopt the methods of empirical thought in physiology or biology. What need is there for any specialised branch of science? — he might ask. One develops spiritual sight, looks

into the spiritual world, arrives at a conception of man, of the being of man in health and disease, and then it is possible to found a kind of spiritualised medicine. As a matter of fact that is just the kind of thing many people do, but it leads nowhere. They abuse empirical medicine but they are, after all, abusing something which they do not understand in the very least. There can be no question of writing off empirical science as worthless and taking refuge in a spiritualised science brought down from the clouds. That is quite the wrong attitude to adopt.

Now it must be remembered that spiritual-scientific investigation does not lead to the same things that can be examined under the microscope. If anyone tries to pretend that with the methods of Spiritual Science he has found exactly the same things as he finds under a microscope, he may safely be summed up as a charlatan. The results of modern empirical investigation are there and must be reckoned with. Those who seriously pursue Spiritual Science must concern themselves with the phenomena of the world in the sense of ordinary empiricism. From Spiritual Science we discover certain guiding lines for empirical research, certain ruling principles, showing us, for instance, that what exists at some particular place in the organism, must also be studied *in reference to its position*.

Many people will say: 'Yes, but a cell is a cell, and purely

empirical observation must determine the distinguishing feature of this cell — whether it is a liver-cell or a brain-cell and so on.’ Now that is not correct. Suppose, for example, I walk past a Bank at 9 o’clock in the morning and see two men sitting there side by side. I look at them and form certain ideas about them. At 3 o’clock in the afternoon it happens that I again walk past the Bank. There are the two men, sitting just as before. The empirical state of affairs is exactly the same — allowing for very slight differences. But now, think of it: one of the men may have remained sitting there for the whole six hours. The other may have been sent out on quite a journey directly after I first passed the Bank, and may have only just returned. This changes the picture fundamentally and has nothing to do with what I actually perceive with my senses. So far as my senses are concerned, the same state of things presents itself at 9 o’clock in the morning and 3 o’clock in the afternoon, but the objective fact must be judged from its connections, its attendant circumstances.

In this sense our conception of a liver-cell must differ essentially from our conception of a cell in the brain or the blood. For only if it were correct to say, for the sake of example, that the basis of everything is a primeval germ-cell which has been fertilised and that the whole organism can be explained by a process of simple fission and differentiation of this primeval germ-cell — only then could we proceed to treat a liver-cell exactly the same as a brain-cell in accordance with

the purely empirical facts. Yes, but now suppose that this is by no means correct; that by virtue of its very *position* in the organism the relation of a liver-cell to forces *outside* man, outside the bounds of the skin, is not at all the same as the relation of a brain-cell to these forces. In that case it will not be correct to look on what is happening merely as a continuation of the process of fission and subsequent location in the body. We must rather assume that the relation of the brain-cell to the universe outside is quite different from that of the liver-cell.

Suppose a man looks at the needle of a compass, finds it pointing from South to North, from North to South, and then decides that the forces which set the needle in this direction lie in the needle itself. He would certainly not be considered a physicist to-day. A physicist brings the needle of the compass into connection with what is called terrestrial magnetism. No matter what theories may be evolved, it is simply impossible to attribute the direction of the needle to forces lying within the needle itself. It *must* be brought into relation with the universe.

In the study of organic life to-day, its relations to the universe are usually regarded as quite secondary. But suppose it were indeed true that merely on account of their different positions the liver and the brain are actually related quite differently to cosmic forces outside man. In that case we could never arrive at an explanation of the being of man by

way of purely empirical thought. An explanation is possible only if we are able to say what part the whole universe plays in the moulding of the brain and again of the liver, in the same sense as the Earth plays its part in the direction taken by the needle in the compass.

Suppose we are tracing back the stream of heredity. We go to the forefathers, pass on to the present generation and then to the progeny, both in the case of animals and of human beings. We take account of what we find — as naturally we must — but we reckon merely with processes observed to lie immediately *within* the human being. It hardly ever occurs to us to ask whether under certain conditions it is possible for cosmic forces to work in the most varied ways upon the fertilised germ. Neither do we ask: Is it perhaps, impossible to explain the formation of the fertilised germ-cell if we remain within the confines of the human being himself? Must we not relate this germ-cell to the whole universe? In orthodox science to-day, the forces that work in from the Cosmos are secondary. To a certain limited extent they are taken into consideration, but they are always secondary. And now you may say: 'Yes, but modern science leads us to a point where such questions no longer arise. It is antiquated to relate the human organs to the Cosmos!' In the way in which this is often done, it *is* antiquated. The fact that as a rule such questions do not arise to-day is due entirely to our scientific education. Our education in science confines us to this purely

objective and empirical mode of research, and we never come to the point of raising such questions as I have indicated by way of introduction. *But the extent to which man is able to advance in knowledge and action in every sphere of life depends upon the raising of questions.* If questions never arise, it means that a man is living in a kind of fog. He himself is dimming his free outlook upon reality, and it is only when things will no longer fit into his scheme of thought that he begins to realise the limitations of his conceptions.

Now I think that in the domain of modern medicine there may be a feeling that the processes taking place in the being of man are not wholly reconcilable with the simple, straightforward theories upon which most cures are based. There is a certain feeling that it must somehow be possible to approach the whole subject from another angle. And I think that what I shall have to say in this connection will mean something to those who are specialists in their particular branches of science, who have practical experience of the processes of health and disease and have realised that current conceptions and theories are too limited to grapple with the intricate organism of man.

Let us be quite honest with ourselves. During the nineteenth century a kind of axiom was put forward by nearly every branch of scientific thought. With a persistence that was enough to drive one to despair, it was constantly being said:

‘Explanations must be absolutely simple.’ And indeed they were! Yes, but if facts and processes are complicated it is prejudging the issue to say that the explanations must be simple. The thing is to accustom ourselves to deal with their complexities. Unspeakable harm has been done in the realms of science and art by the insistent demand for simplification. In all her manifestations, small and great, Nature is highly complicated, never simple. We can really grapple with Nature only if we realise from the outset that the most seemingly comprehensive ideas are related to the reality just as photographs of a tree, taken from one side only, are related to the tree. I can photograph the tree from every side and the photographs may be very different. The more photographs I have, the more nearly will my idea approximate to the reality of the tree.

The prevalent opinion to-day is this: such and such a theory is correct. Therefore some other theory — one with which we do not happen to agree — must be wrong. But that is just as if a man were to photograph a tree from one side only. He has his particular photograph. Somebody else takes a photograph from another side and says to the first man: ‘Your photograph is absolutely false; mine, and mine alone, represents the truth. In short, *my* particular view is correct.’ All controversies about materialism, idealism, realism and the like, have really taken this form. They are by no means dissimilar to the seemingly trivial example I have given. At the very outset of our studies I

ask you not to take what I have to say as if it were meant to tend in the direction of materialism, idealism, or mysticism, but merely as an attempt to go straight for reality to the extent which the capacity of human thought permits. Materialistic conceptions often achieve great results when it is a question of mastering reality, but the spiritual aspect must be introduced as well. If it is impossible to keep the various aspects separate, our ideas will appear rather as if one took many different photographs all on the same plate. Indeed, many things are like this to-day. It is as if photographs from many different aspects had been taken on one plate.

Now when the forces lying latent in the soul of man are energised by the methods outlined in my book [*Knowledge of the Higher Worlds*](#), we rise above the ordinary condition of knowledge — to which the latest phase in biology pays special devotion — and reach what I have described as Imaginative Cognition. A still higher level is that of 'Knowledge by Inspiration,' and the highest — if I may use this expression — is that of true Intuition, Intuitive Knowledge. In Imaginative Knowledge one comes to *pictures* of reality, knowing very well that they *are* pictures, but also that they are pictures of reality, and not merely dream-pictures. The pictures arising in Imaginative Cognition are true pictures but not the reality itself. At the stage of Knowledge by Inspiration reality begins to stream into these pictures, something lives within them; they tell us more than the picture alone. They themselves

bear witness to a spiritual reality. And in acts of Intuitive Knowledge we live *within the spiritual reality* itself. — These are the three stages described in [Knowledge of the Higher Worlds](#).

Now these three modes of higher knowledge give us, to begin with, an understanding of spiritual worlds, of a spiritual universe and of man as a being of Spirit and soul; they do not, in the early stages, reveal to us the findings of empirical research in the realm, say of, biology. When Imagination, or Inspiration, or Intuition, is used for gaining understanding of the being of man, a different way is followed.

Take, for instance, the structure of the human brain. It does not perhaps strike physiologists and doctors as very extraordinary, but to those who call themselves psychologists it is remarkable in the extreme. Psychologists are a strange phenomenon in our civilisation because they have managed to develop a science without subject-matter — a psychology without a soul! Think for a moment of a psychologist who takes his start purely from empirical science. In recent times people have really been at a loss to know what to make of philosophy, because it has been impossible to know whether philosophers know anything or not. Scientists, however, are supposed to know something, and so certain scientists who dabble in philosophy have been given Chairs of Philosophy. Current opinion has been this: the scientists must have some

knowledge, because although it is quite possible in philosophy to talk round and round a subject, it is not possible in science to talk hot air about something that has been observed under a microscope, through a telescope, or by means of Röntgen rays. All these things can be tested and proved, but in philosophy it is not so easy to prove whether or not a man is talking out of the clouds.

And now, think of how Theodor Ziehen speaks of the structure of the brain. In this connection I once had a very interesting experience, and perhaps I can make the point more concrete by telling you a certain anecdote. Many years ago I once attended a meeting where an eminent doctor was speaking about the structure of the brain. He analysed the structure of the brain in relation to the soul-life of man from a point of view which might justly be called materialistic. He was an out-and-out materialist, one who had analysed the structure of the brain quite well to the extent to which it has been investigated in our times, and he then proceeded to explain the life of soul in connection with the brain and its structure. The chairman of the meeting was a follower of Herbart, and he, therefore, was not concerned with analysing the structure of the brain but the life of conception and ideation, as Herbart, the philosopher, had once done. He — the chairman — then said the following: 'Here we have something very remarkable. The physiologist or the doctor makes diagrams and figures of the structure of the brain. If I,

as a Herbartian, make drawings of the complicated associations of ideas — I mean a picture of the ideas which associate and not of the nerve fibres connecting one nerve-cell with another — if I, as a genuine Herbartian who does not concern himself with the brain as a structure, make symbolic diagrams of what I conceive to be the process underlying the concatenation of ideas, my drawings look exactly the same as the physiologist's sketches of the structure of the brain!'

This comparison is not unjustified. Science has taught us more and more about the structure of the brain. It has been proved in ever greater measure that the physical structure of the brain does, indeed, correspond in a marvelous way with the organisation of our life of ideation. Everything in the life of ideation can be found again in the structure of the brain. It is as if Nature herself had intended to create in the brain a plastic image of man's life of ideation. Something of the kind strikes us forcibly when we read statements like those of Meynert — nowadays they are already considered rather out-of-date. Meynert was a materialist, but an excellent brain-physiologist and psychologist. What he, as a materialist, tells us is a wonderful contribution to what is discovered when the actual brain is left out of account and we deal only with the way in which ideas unite, separate, etc., and then draw figures and diagrams. In short, if anything could make a man a materialist it is the structure of the human brain. At all events this much must be admitted: If, indeed, the Spirit and

soul exist, they have in the human brain so perfect an expression that one is almost tempted to ask why the Spirit and soul in themselves are necessary for the life of ideation, even if people still hanker after a soul that can at least think. The brain is such a true mirror-image of the Spirit and soul — why should the brain itself not be able to think?

All these things must of course be taken with reservations. To-day I only want to indicate the tenor of our studies as a whole. The human brain, especially when we begin to make detailed research, is well calculated to make us materialists. The mystery that really underlies all this clears up only when we reach the stage of Imaginative Knowledge, where pictures arise — pictures of the spiritual world not previously visible. The pictures actually remind us of the configurations in the human brain formed by the nerve-fibres and nerve-cells.

What, then, is this Imaginative Knowledge, which functions, of course, entirely in the super-sensible world? If I were to attempt to give you a concrete picture of what Imaginative Knowledge is, in the way that a mathematician uses figures to illustrate a mathematical problem, I should say the following: Imagine that a man, living in the world, knows more than sense-cognition can tell him because he can rise to a world of pictures which express a reality, just as the human brain expresses the life of soul. In the brain, Nature has given us as a real Imagination, an Imagination that is real in the concrete

sense, something that is attained in Imaginative Knowledge at a higher level.

This, you see, leads us more deeply into the mysteries of the constitution of man. As we shall find later on, this marvelous structure of the human brain is not an isolated formation. Through Imagination we behold a super-sensible world, and it is as though a part of this world had become real in a lower world; in the human brain a world of Imagination lies there, in concrete fact, before us. I do not believe that anyone can speak adequately about the human brain unless he sees in its structure an Imaginative replica of the life of soul. It is just this that leads us into difficulties when we take our start from ordinary brain-physiology and try to pass to an understanding of the life of soul. If we confine ourselves to the brain itself, a life of soul over and above this does not seem to be necessary. The only persons with a right to speak of a life of soul over and above the brain are those who have a knowledge of it other than that which is acquired by customary methods. For when, in the act of spiritual knowledge, we come to know this life of soul, we realise that it has its complete reflection in the structure of the human brain, and that the brain, moreover, can do everything that the super-sensible organ of soul can do by way of conceptual activity. Down to its very functions the brain is a mirror-image. With brain-physiology, therefore, no one can prove or disprove materialism. It simply cannot be done. If man were

merely a being of brain, he would never need to say to himself: 'Over and above this brain of mine, I possess a soul.'

In contrast to this — and I shall now describe in an introductory way something that will be developed in the subsequent lectures — let us consider a different function of the human organism, not the life of ideation, but the process or function of *breathing*. Think of the breathing process and of what passes into consciousness with regard to it. When we say to ourselves: 'I have an idea which reminds me of another idea I had three years ago and I link the one to the other' — we may well be able to make diagrams, especially if we take a series of ideas. Such diagrams will bear a great resemblance, for instance, to Meynert's sketches of the structure of the brain. Now this cannot be done when we try to find an expression in the organism of man of what is contained in the breathing-processes. We can find no adequate expression of the breathing process in the structures and formations of the physical organs. The breathing process is something for which there is no adequate expression in the human organism, in the same sense as the structure of the brain is an adequate expression for the life of ideation and perception.

In Imaginative Knowledge pictures arise before us, but if we rise to knowledge by Inspiration, reality streams through the pictures from behind, as it were. If, then, we rise to Inspiration and gaze into the super-sensible world in such a way that the

Imaginations teem with spiritual reality, we suddenly find ourselves standing in a super-sensible process which has its complete analogy in the connection between the breathing process, the structure of lungs and arachnoidal cavity, central canal of the spinal cord and the continuous flow of the breath into the brain. In short, if we rise to Inspiration, we learn to understand the whole meaning of the breathing process, just as Imaginative Knowledge leads to an understanding of the structure of the brain. The *brain* is an *Imagination made concrete*; everything connected with the *breathing* process is an *Inspiration made real*, an Inspiration brought down into the world of sense. A man who strives to reach the stage of Knowledge by Inspiration enters a world of Spirit and soul, but this world lies there tangibly before him when he observes the whole breathing process and its significance in the human organism.

Imaginative Knowledge, then, is necessary to an understanding of the structure of the brain; Knowledge by Inspiration is necessary before we can understand the rhythm of breathing and everything connected with it. The relation of the breathing process to the Cosmos is quite different from that of the brain. The outer, plastic structure of the brain is so completely a mirror-image of the Spiritual that it is possible to understand this structure without penetrating very deeply into the super-sensible world. Indeed, we need only rise to Imagination, which lies quite near the boundaries of ordinary

cognition. The breathing process cannot be understood by means of Imagination; here we must have Inspiration, we must rise higher in the super-sensible world.

To understand the *metabolic process* we must rise higher still. The metabolic process is really the most mysterious of all processes in the human being. The following lectures will show that we must think of the metabolic process quite differently from the way in which it is thought of in empirical physiology. The changes undergone by the substances as they pass from the tongue to the point where they bring about something in the brain cells, for instance, cannot, unfortunately, be followed by means of purely empirical research, but only by means of Intuition. Intuition leads us beyond the mere perception of the object into the very object itself. In the brain, the Spirit and soul create for themselves an actual mirror-image, but they remain, in essence, outside this image. As Spirit and soul they influence and pass into the breath-rhythm but constantly withdraw. In the metabolism, however, the Spirit and soul submerge themselves completely; as Spirit and soul they disappear in the actual process. They are not to be found — neither are they to be found by empirical research.

And now think of Theodor Ziehen's subtle descriptions of the structure of the human brain. It is, indeed, also possible to make symbolic pictures of the memory in such a way that the

existence in the brain of physiological-anatomical mirror-images of the faculty of memory can be proved. But when Ziehen comes to the *sentient* processes, there is already a hitch, and that is why he does not speak of feelings as independent entities, but only of mental conceptions coloured with feeling. And of the *will*, modern physiologists have ceased to speak. Why? Very naturally they say nothing. Now when I want to raise my arm — that is to say, to accomplish an act of will — I have, first of all, the *idea*. Something then descends into the region that, according to current opinion, is wholly ‘unconscious.’ Everything that cannot be actually observed in the life of soul, but is none the less believed to be there, is thrown into the reservoir of the ‘unconscious.’ And then I observe how I move my hand. Between the intention and the accomplished fact lies the *will*, which plays right down into the material nature of the physical organism.

This process can be followed in detail by Intuitive Knowledge; the will passes down into the innermost being of the organism. The act of will enters right into the metabolism. There is no act of will performed by physical man which cannot be traced by Intuitive Knowledge to a corresponding metabolic process. Nor is there any process of will which does not find its expression in demolition, dissolution — call it what you will — within the metabolic processes. The will first demolishes what exists somewhere or other in the organism, in order that it may act. It is just as if I had to burn up

something in my arm before being able to use this limb for the expression of my will. Something must first be done away with, as we shall see in the following lectures.

I know that this would be considered a fearful heresy in science to-day, but nevertheless it will reveal itself to us as a truth. Something that is of the nature of substance must be destroyed before the will can come into play. Spirit and soul must establish themselves where substance existed. Understanding of this belongs to the very essence of Intuitive Knowledge, and we shall never be able to explain the metabolic processes in the human being unless we investigate them by its means.

These three processes — the nerve-sensory process, the rhythmic processes (breathing and blood circulation) and the metabolic processes — include, fundamentally speaking, every function in the human organism. Man is really objective knowledge, knowledge made actual — no matter whether we merely observe him from outside or dissect him. Take the human *head*. We understand what is going on in the head when we realise that there is such a thing as Imaginative Knowledge; the processes in the *rhythmic system* become clear when we know of the existence of Knowledge by Inspiration; we understand the *metabolic processes* when we know of the existence of Intuition. Thus do the principles of reality interpenetrate in the being of man. Take, for example,

the specific organs of the will — they can be understood only by an act of Intuitive Knowledge.

As long as we apply a rigidly objective mode of cognition to the being of man, we shall not realise that he is, in fact, not at all as he is usually supposed to be. Modern physiology knows, of course, that to a great extent the human being is a column of fluid. But now ask yourselves quite honestly whether physiology does in fact reckon with man as a column of fluid, or whether it does not proceed merely as if he were a being consisting of solid forms. You will probably have to admit that little account is taken of the fact that he is essentially a fluidic being and that the solids have merely been inserted into this fluid. But, as a matter of fact, man is also an airy, gaseous being, and a being of warmth as well. The solid part of man can well be understood by means of ordinary objective cognition. Just as in the laboratory I can become familiar with the nature of sulphide of mercury, so by chemical and physical investigation of the human organism I can acquaint myself with all that is solid. It is different with the fluids in the being of man. The fluids live in a state of perpetual integration and disintegration and cannot be observed in the same way as the stomach or heart are observed and then drawn. If I make drawings of these organs as if they were solid objects, a great deal can be said about them. But it is not the same if we take this watery being of man as something real. In the fluids something is always

coming into being and disappearing again. It is as if we were to conceive of the heart as continually coming into being and disappearing — although the process there is not a very rapid one. The watery being of man must be approached with Imaginative Knowledge.

The importance of the organic functions in the human organism, and their connection with the circulation, are of course well known, but how these functions play into one another — that follows precisely the pattern of Inspiration. Only through Inspiration can the airy part of man be understood.

And now let us pass to the warmth in the human being. Try to realise that man is something very special by virtue of the fact that he is a being of warmth; that in the most various parts of his structure warmth and cold are found present in the most manifold ways. Before we can realise how the Ego lives in the warmth in man, *we must ourselves live in the process*. There must be an act of Intuitive Knowledge.

Before man can be known in his whole being — not as if he were simply a mass of solid organs with sharp contours — we must penetrate into the organism from many different angles. Just as we feel the need to exercise Imagination, Inspiration and Intuition as we pass from the brain to the other organic phenomena, so it is when we study the aggregate states of

matter within him. The solid part of man, his solid bodily nature, hardly differs at all from the state in which substances exist outside the human organism. There is an essential difference in the case of the fluids and gases, and above all in the case of the warmth. This will have to be considered in the next lecture. But it is, indeed, a fact that only when our observation of man widens out in this way do we realise the full significance of the organs and systems of organs.

Empirical physiology hardly enables us to follow up the functions of the human organism further than the point where the chyle passes from the intestines into the lymphatic vessels. What follows is merely a matter of conjecture. All ideas about the subsequent processes in the substances we take in from the outside world, for instance the processes in the blood stream, are really nothing but fantasy on the part of modern physiology. The part played by the kidneys in the organism can be understood only if we observe the katabolic processes side by side with the anabolic processes, which today are almost invariably regarded as the only processes of significance. A long time ago I once said to a friend: 'It is just as important to study those organs which are grouped around the germ of the human embryo, and which are later discarded, as to study the development of the germ itself from conception to birth.' The picture is complete only when we observe the division of the cells and the structure arising from this, and also trace the katabolic processes which take their

course side by side with the anabolic processes. For we not only have this katabolic process around us in the embryonic period; we bear it within us continually in later life. And we must know in the case of each single organ, to what extent it contains anabolic and to what extent katabolic processes. The latter are, as a general rule, bound up with an *increase* of consciousness. Clear consciousness is dependent on katabolic processes, on the demolition of matter.

The same must be said of the excretory processes. The kidneys are organs of excretion. But now the question arises: Although from the point of view of material empiricism the kidneys are primarily excretory organs, have they no other purpose in the constitution of man beyond this? Do they not, perhaps, play a more important part in building up the human being virtue of something other than their excretory functions? If we then follow the functions still further, passing from the kidneys to the liver, for example, we find this interesting phenomenon: — The kidneys secrete in the last resort, *outwards*; the liver, *inwards*. And the question arises: How is the relation of the kidney process to the liver process affected by the fact that the kidneys send their excretory products outwards and the liver inwards? Is the human being at one time communing, as it were, with the outer world and at another with himself?

Thus we are led gradually to penetrate the mysteries of the

human organism, but we must bring to our aid matters that are approached in the ways of which I have to-day given only preliminary hints. I will proceed from this point in the following lectures, showing how these things lead to a true understanding of pathology and therapy, and how far they may become guiding principles in orthodox empirical research. No attack on this kind of research is implied. The only object is to show that guiding principles are necessary.

I am not out to attack scientific research or scientific medicine in any sense. My aim is to show that in this scientific medicine there is a mine of opportunity for a much wider knowledge than can be attained by modern methods, and above all by the current outlook on the world.~ We have no wish to scoff at the scientific mode of observation but on the contrary to give it a true foundation. When it is founded upon the Spirit, then, and only then, does it assume its full significance.

To-morrow I will speak further on this subject.

Anthroposophical Approach to Medicine 2

If I were asked to map out a course of medical study to cover a certain period of time, I should begin — after the necessary scientific knowledge had been acquired — by distinguishing the various functions in the organism of man. I should feel bound to advise a study, both in the anatomical and physiological sense, of the transformation of the foodstuffs from the stage where they are worked upon by the ptyalin and pepsin to the point where they are taken up into the blood. Then, after considering the whole alimentary canal concerned with digestion in the narrower sense, I should pass on to the system of heart and lungs and all that is connected with it. This would be followed by a study of the kidneys and, later on, their relation to the system of nerves and senses — a relation not properly recognised by orthodox science to-day. Then I should lead on to the system of liver, gall and spleen, and this cycle of study would gradually open up a vista of the human organism, leading to the knowledge which it is the task of Spiritual Science to develop. Then, with the illumination which would have been shed upon the results of empirical research, one would be able to pass on to therapy.

In the few days at our disposal, it is of course possible for me to give only a few hints about this wide and all-embracing domain. A great deal, therefore, of what I have to say will be based upon an unusual conception of empirical facts, but I think it will be quite comprehensible to anyone who possesses

the requisite physiological and therapeutic knowledge. I shall have to use somewhat unfamiliar terms, but there will really be nothing that cannot in some way be brought into harmony with the data of modern empirical knowledge — if these data are studied in all their connections. Everything I say will be aphoristic, merely hinting at ultimate conclusions. Our starting point, however, must be the objective and empirical investigations of modern times, and the intermediate stages will have to be mastered by the work of our doctors. This intermediate path is exceedingly long but it is absolutely essential, for the reason that, as things are to-day, nothing of what I shall bring before you will be whole-heartedly accepted if these intermediate steps are not taken — at all events in regard to certain outstanding phenomena. I do not believe that this will prove to be as difficult as it appears at present, if people will only condescend to bring the preliminary work that has already been done into line with the general conceptions I am trying to indicate here. This preliminary work is excellent in many respects, but its goal still lies ahead.

In the last lecture I tried to show you how a widening out of ordinary knowledge can give us insight into the being of man. And now, bearing in mind what I have just said, let me add the following. It may, to begin with, be a stumbling-block to hear it said in Anthroposophy that man, as he stands before us in the physical world, consists of a physical organisation, an etheric organisation, an astral organisation and an Ego-organisation.

These expressions need not be an obstacle. They are used merely because some kind of terminology is necessary. By virtue of this Ego-organisation, the point where his inner experiences are focused and unified, man is able to unfold that inner cohesion of soul-life which is not present in the animal. The Ego is really the focus whence the whole organic activity of man proceeds, in waking consciousness at all events. A further expression of the Ego is the fact that during earthly life the relation of man to sexual development is not the same as that of the animal. Essentially — though of course exceptions are always possible — the constitution of the animal is such that sexual maturity represents a certain point of culmination. After this, deterioration sets in. This organic deterioration may not begin in a very radical sense after the first occurrence of sexual activity, but to a certain extent it is there. On the other hand, the physical development of the human being receives a certain stimulus at puberty. So that even in the outer empirical sense — if we take all the factors into account — there is already a difference here between the human being and the animal.

You may say that it is really an abstraction to speak of physical, etheric, astral and Ego organisations. The objection has in fact often been made, especially from the side of philosophy, that this is an abstract classification, that we take the functions of the organism, distinguish between them, and — since distinctions do not necessarily point back to any

objective causes — people think that it is all an abstraction. Now that is not so. In the course of these lectures we shall see what really lies behind this classification and division, but I assure you they are not merely the outcome of a desire to divide things into categories.

When we speak of the *physical organisation* of man, this includes everything in the organism that can be dealt with by the same methods that we adopt when we are making experiments and investigations in the laboratory. All this is included when we think or speak of the physical organisation of man. In regard to the *etheric organisation* that is woven into the physical, however, our mode of thought can no longer confine itself to the ideas and laws obtaining when we are making experiments and observations in the laboratory. Whatever we may think of the etheric organisation of man as revealed by super-sensible knowledge, and without having to enter into mechanistic or vitalistic theory in any way, it is apparent to direct perception (and this is a question which would be the subject of lengthy study in my suggested curriculum) that the etheric organisation as a whole is involved — functionally — in everything of a *fluid*, watery nature in the human organism. The purely physical mode of thought, therefore, must confine itself to what is solid in the organism, to the solid structures and aggregations of matter. We understand the organism of man aright only when we conceive of its fluids as being permeated through and through

with *life*, as living fluids — not merely as the fluids of outer Nature. This is the sense in which we say that man has an etheric body. It is not necessary to enter into hypotheses about the nature of life, but merely to understand what is implied by saying that the cell is permeated with life.

Whatever views we may hold — mechanistic, idealistic, animistic or the like — when we say, as the crass empiricist also says, that the cell has *life*, this direct perception to which I am referring shows that the fluid nature of man is likewise permeated with life. But this is the same as saying: Man has an etheric body. We must think of everything solid as being embedded in the fluid nature. And here already we have a contrast, in that we apply the ideas and laws obtaining in the inorganic world to the solid parts of man's being, whereas we think not only of the cells — the smallest organisms present in man — as living, but of the fluid nature *in its totality* as permeated with life.

Further, when we come to the airy nature of man, it appears that the gases in his being are in a state of perpetual permutation. In the course of these lectures we shall have to show that this is neither an inorganic permutation nor merely a process of permutation negotiated by the solid organs, but that an individual complex of law controls the inner permutation of the gases in man. Just as there is an inner law in the solid substances, expressing itself, among other things, in the relationship between the kidneys and the heart, so we

must postulate the existence of a law within the airy or gaseous organism — a law that is not confined to the physical, solid organs. Anthroposophy describes this complex of law, which underlies the gaseous organism, as *astral* law, as the astral organisation. These astral laws would not be there in man if his airy organisation had not permeated the solid and the fluid organisations. The astral organisation does not penetrate directly into the solids and the fluids. It does, however, directly penetrate the airy organisation. This airy organisation penetrates the solids and the fluids, but only because the presence of an organised astral nature gives it definite, though fluctuating, inner form. A study of the aggregate conditions thus brings us to the following conclusions: In the case of the solid substances in man we need assume nothing more than a physical organisation; in the case of the living fluidity which permeates the solid, physical organisation, we must assume the existence of something that is not exhausted in the forces of physical law, and here we come to the etheric organism — a system that is self-contained and complete in itself. In the same sense I give the name of astral organisation to that which does not directly penetrate into the solids and fluids but first of all into the airy organisation. I prefer to call this the astral *organism* because it again is a self-contained system.

And now we come to the Ego-organisation, which penetrates *directly* only into the differentiations of warmth in

the human organism. We can therefore speak of a warmth organism, a warmth 'being.' The Ego-organisation penetrates directly into this warmth being. The Ego-organisation is a super-sensible principle and brings about the various differentiations of the warmth. In these differentiations of warmth the Ego-organisation has its immediate life. It also has an indirect life in so far as the warmth works upon the airy fluid and solid organisations.

In this way we gradually gain insight into the human organism. Now all that I have been describing expresses itself in physical man as he lives on the earth. The most intangible organisation of all — the Ego-warmth-organisation — works down indirectly upon the gaseous, fluid and solid organisations; and the same is true of the others. So that the way in which this whole configuration penetrates the constitution of man, as known to empirical observation, will find expression in any solid system of organs, verifiable by anatomy. Hence, taking the various organ-systems, we find that only the physical

— I mean the physically solid system — is directly related to its corresponding (physical) system of laws; the fluid is less directly related, the gaseous still less directly, and the element of warmth least directly of all, although even here there is still a certain relation.

Now all these things — and I can indicate them here only in the form of ultimate conclusions — can be confirmed by an extended empiricism merely from the phenomena themselves. As I say, on account of the short time at our disposal I can only give you certain ultimate conclusions.

In the anatomy and physiology of the human organism we can observe, to begin with, the course taken by the foodstuff. It reaches the intestines and the other intricate organs in that region, and is absorbed into the lymph and blood. We can follow the process of digestion or nourishment in the widest sense, up to that point. If we limit ourselves to this, we can get on quite well with the mode of observation (and it is not entirely mechanistic) that is adopted by natural science to-day. An entirely mechanistic mode of observation will not lead to the final goal in this domain, because the complex of laws observed externally in the laboratory, and characterised by natural science as inorganic law, is here functioning in the digestive tract: that is to say, already within the *living* organism. From the outset, the whole process is involved in life, even at the stage of the ptyalin-process.

If we merely pay heed to the fact that the complex of outer, inorganic law is involved in the life of the digestive tract, we can get on well quite, so far as this limited sphere is concerned, by confining ourselves merely to what can be observed within the physical organisation of man. But then we

must realise that something of the digestive activity still remains, that the process of nourishment is still not quite complete when the intestinal tract has been passed, and that the subsequent processes must be studied from a different point of view. So far as the limited sphere is concerned, we can get on quite well if, to begin with, we study all the transformations of substance by means of analogies, just as we study things in the outer world. But then we find something that modern science cannot readily acknowledge but which is none the less a truth, following indeed from science itself. It will be the task of our doctors to investigate these matters scientifically and then to show from the empirical facts themselves that as a result of the action of the ptyalin and pepsin on the food-stuff, the latter is divested of every trace of its former condition in the outer world.

We take in foodstuff — you may demur at the expression ‘foodstuff’ but I think we understand each other — we take in foodstuff from the mineral, plant and animal kingdoms. It belongs originally to these three realms. The substance most nearly akin to the *human* realm is, of course, the mother’s milk; the babe receives the milk immediately it has left the womb. The process enacted within the human organism during the process of nourishment is this: When the foodstuff is received into the realm of the various glandular secretions, every trace of its origin is eliminated. It is really true to say that the human organisation itself conduces to the purely

scientific, inorganic mode of observation. In effect, the product of the assimilation of foodstuffs in man comes nearest of all to the outer physical processes in the moment when it is passing as chyle from the intestines into the lymph and blood-streams. The human being finally obliterates the external properties which the foodstuff, until this moment, still possessed. He wants to have it as like as possible to the inorganic state. He needs it thus, and this again distinguishes him from the animal kingdom.

The anatomy and physiology of the animal kingdom reveal that the animal does not eliminate the nature of the substances introduced to its body to the same extent, although we cannot say quite the same of the products of excretion. The substances that pass into the body of the animal retain a greater resemblance to their constitution in the outer world than is the case with man. They retain more of the vegetable and animal nature and proceed on into the blood-stream still in their external form and with their own inner laws. The human organisation has advanced so far that when the chyle passes through the intestinal wall, it has become practically inorganic. The purely physical nature comes to expression in the region where the chyle passes from the intestines into the sphere of the activity of heart and lungs.

It is really only at this point that our way of looking at things becomes heretical as regards orthodox science. The system

connected with the heart and the lungs — the vascular system — is the means whereby the foodstuffs (which have now entered the inorganic realm) are led over into the realm of *life*. The human organisation could not exist if it did not provide its own life. In a wider sense, what happens here resembles the process occurring when the inorganic particles of albumen, let us say, are transformed into organic, living albumen, when dead albumen becomes living albumen. Here again we need not enter into the question of the inner being of man, but only into what is continually being said in physiology. On account of the shortness of time we cannot speak of the scientific theories as to how the plant produces living albumen, but in the human being it is the *system of heart and lungs*, with all that belongs to it, which is responsible for the transformation of the albumen into living substance after the chyle has become almost inorganic.

We can therefore say: The system of heart and lungs is there in order that the physical system may be drawn up into the etheric organisation. The system of heart and lungs brings about a vitalising process whereby inorganic substance is raised to the organic stage, is drawn into the sphere of *life*. (In the animal it is not quite the same, the process being less definite.) Now it would be absolutely impossible for this process to take place in the physical world if certain conditions were not fulfilled in the human organism. The raising and transformation of the chyle into an etheric

organisation could not take place within the sphere of earthly law unless other factors were present. The process is possible in the physical world only because the whole etheric system pours down, as it were, into the physical, is membered into the physical. This comes to pass as a result of the absorption of *oxygen* in the breath. And so man is a being who can walk physically upon the Earth because his etheric nature is made physical by the absorption of oxygen. The etheric organisation is projected into the physical world as a physical system; in effect, that which otherwise could only be super-sensible expresses itself as a physical system, as the system of heart and lungs. And so we begin to realise that just as *carbon* is the basis of the organisms of animal, plant and man (only in the latter case in a less solid form) and 'fixes' the physical organisation as such, so is *oxygen* related to the etheric organisation when this expresses itself in the physical domain.

Here we have the two substances of which living albumen is essentially composed. But this mode of observation can be applied equally well to the albuminous cell, the cell itself. Only we widen out the kind of observation that is usually applied to the cell by substituting a *macroscopic* perception for the microscopic perception of the cell in the human being. We observe the processes which constitute the connection between the digestive tract and the system of heart and lungs. We observe them in an inner sense, seeing the relation

between them, perceiving how an etheric organisation comes into play and is 'fixed' into the physical as the result of the absorption of oxygen.

But you see, if this were all, we should have a being in the physical world possessed merely of a digestive system and a system of heart and lungs. Such a being would not be possessed of an inner life of soul; the element of soul could have its life in only the *super-sensible*; and it is still our task to show how that which makes man a *sentient* being inserts itself into his solid and fluid constitution, permeating the solids and fluids and making him a sentient being, a being of soul. The *etheric organisation* in the physical world, remember, is bound up with the oxygen.

Now the organisation of soul cannot come into action unless there is a *point d'appui*, as it were, for the airy being, with a possibility of access to the physical organisation. Here we have something that lies very far indeed from modern habits of thought. I have told you that oxygen passes into the etheric organisation through the system of heart and lungs; the astral nature makes its way into the organisation of man through another system of organs. This astral nature, too, needs a physical system of organs. I am referring here to something that does not take its start from the *physical organs* but from the airy nature (not only the fluid nature) that is connected with these particular organs — that is to say from

the airy organisation that is bound up with the solid substance. The astral-organic forces radiate out from this gaseous organisation into the human organism. Indeed, the corresponding physical organ itself is first formed by this very radiation, on its backward course. To begin with, the gaseous organisation radiates out, makes man into an organism permeated with soul, permeates all his organs with soul and then streams back again by an indirect path, so that a physical organ comes into being and plays its part in the physical organisation. This is the *kidney system*, which is regarded in the main as an organ of excretion. The excretory functions, however, are secondary. I will return to this later on, for I have yet to speak of the relation between the excretions and the higher function of the kidneys. As physical organs the kidneys are excretory organs (they too, of course, have entered the sphere of vitality), but besides this, in their underlying airy nature, *they radiate the astral forces* which now permeate the airy nature and from thence work directly into the fluids and the solids.

The kidney system, therefore, is that which from an organic basis imbues man with sentient faculties, with qualities of soul and the like — in short with an astral organism. Empirical science has a great deal to say about the functions of the kidneys, but if you will apply a certain instinctive inner perception to these functions, you will be able to discover the relations between inner sentient experience and the functions

of the kidneys — remembering always that the excretions are only secondary indications of that from which they have been excreted. In so far as the functions of the kidneys underlie the sentient faculties, this is expressed even in the nature of the excretions.

If you want to extend scientific knowledge in this field, I recommend you to make investigations with a man of the more sensitive type and try to find out the essential change that takes place in the renal excretions when he is thinking in a cold or in a hot room. Even purely empirical tests like this, suitably varied in the usual scientific way, will show you what happens. If you make absolutely systematic investigations, you will discover what difference there is in the renal excretions when a man is thinking either in a cold or a warm room. You can also make the experiment by asking someone to think concentratedly and putting a warm cloth round his head. (The conditions for the experiment must of course be carefully prepared.) Then examine the renal excretions, and examine them again when he is thinking about the same thing and cold compresses have been put on his feet.

The reason why there is so little concern with such inquiries to-day is because people are averse from entering into these matters. In embryological research into cell-fission, science does not study the allantois and the amnion. True, the discarded organs have been investigated, but to understand

the whole process of embryonic development the accessory organs must be studied much more exactly even than the processes which arise from the division of the germ-cell. Our task here, therefore, is to establish starting-points for true investigation. This is of the greatest significance, for only so shall we find the way, as we must do, towards seeing man, not as a visible but as an invisible “giant” cell.

To-day, science does not speak of the cell as it speaks of the human being, because microscopy does not lead so far. The curious thing is that if one studies the realm of the microscopic with the methods I am here describing, wonderful things come to light — as for instance the results achieved by the Hertwig school. The cell can be investigated up to a certain point in the microscope, but then there is no possibility of, further research into the more complicated life-processes. Ordinary empiricism comes to a standstill here, but with Spiritual Science we can follow the facts further. We now look at man in his totality, and the tiny point represented by the cell grows out, as it were, into the whole being of man.

From this we can proceed to learn how the purely physical organisation is connected with the structure of *carbon*, just as the transition to the etheric organisation is connected with the structure of *oxygen*. If, next, we make exact investigations into the *kidney system*, we find a similar connection with *nitrogen*. Thus we have carbon, oxygen, nitrogen; and in order to trace

the part played by nitrogen in the astral permeation of the organism, you need only follow, through a series of accurate experiments, the metamorphoses of uric acid and urea. Careful study of the secondary excretions of uric acid and urea will give definite evidence that the astral permeation of man proceeds from the kidney system. This will also be shown by other things connected with the activity of the kidneys, even to the point where pathological conditions are present — when, let us say, we find blood corpuscles in the urine. In short, the kidney system radiates the astral organisation into the human organism. Here we must not think of the physical organisation, but of the airy organisation that is bound up with it. If nitrogen were not present, the whole process would remain in the domain of the super-sensible, just as man would be merely an etheric being if oxygen were not to play its part. The outcome of the nitrogen process is that man can live on earth as an earthly being. Nitrogen is the third element that comes into play.

There is thus a continual need to widen the methods adopted in anatomy and physiology by applying the principles of Spiritual Science. It is not in any sense a matter of fantasy. We ask you to study the kidney system, to make your investigations as accurately as you possibly can, to examine the urea and the excretions of uric acid under different astral conditions, and step by step you will find confirmation of what I have said. Only in this way will the mysteries of the human

organism reveal themselves to you.

All that enters into man through the absorption of foodstuff is carried into the astral organism by the kidney system. There still remains the *Ego-organisation*. The products of digestion are received into the Ego-organisation primarily as a result of the working of *liver* and *gall*. The warmth and the warmth-organisation in the system of liver and gall radiate out in such a way that man is permeated with the Ego-organisation, and this is bound up with the differentiations of warmth in the organism as a whole.

Now it is quite possible to make absolutely exact investigations into this. Take certain lower animals where there is no trace at all of an Ego-organisation in the psychological sense, and you will find no developed liver, and still less any bile. These develop in the phylogeny of the animal kingdom only when the animal begins to show traces of an Ego-organisation. The development of liver and gall runs absolutely parallel with the degree to which the Ego-organisation unfolds in a living being. Here, too, you have an indication for a series of physiological investigations in connection with the human being, only of course they must cover the different periods of his life. You will gradually discover the relation of the Ego-organisation to the functions of the liver.

In certain diseases of children you will find, for instance, that a number of psychical phenomena, tending not towards the life of feeling but towards the Ego-activities, are connected with the secretion of gall. This might form the basis for an exceedingly fruitful series of investigations. The Ego-organisation is connected with *hydrogen*, just as the physical organisation is connected with carbon, the etheric organisation with oxygen and the astral organisation with nitrogen. It is, moreover, possible to relate all the differentiations of warmth — I can only hint at this — to the specific function carried out in the human organism by hydrogen in combination with other substances. And so, as we ascend from the material to the super-sensible and make the super-sensible a concrete experience by recognising its physical expressions, we come to the point of being able to conceive the whole being of man as a highly complicated cell, a cell that is permeated with soul and Spirit.

It is really only a matter of taking the trouble to examine and develop the marvelous results achieved by natural science and not simply leaving them where they are. My understanding and practical experience of life convince me that if you will set yourselves to an exhaustive study of the results of the most orthodox empirical science, if you will relate the most obvious with the most remote, and really study the connections between them, you will constantly be led to what I am telling you here. I am also convinced that the so-

called 'occultists' whom you may consult — especially 'occultists' of the modern type — will not help you in the least. What will be of far more help is a genuine examination of the empirical data offered by orthodox science. Science itself leads you to recognise truths which can be actually perceived only in the super-sensible world, but which indicate, nevertheless, that the empirical data must be followed up in this or that direction. You can certainly discover the methods on your own account; they will be imposed by the facts before you. There is no need to complain that such guiding principles create prejudice or that they influence by suggestion. The conclusions arise out of the things themselves, but the facts and conditions prove to be highly complicated, and if further progress is to be made, all that has been learned in this way about the human being must now be investigated *in connection with the outer world*.

I want you now to follow me in a brief line of thought. I give it merely by way of example, but it will show you the path that must be followed. Take the annual plant which grows out of the earth in spring and passes through its yearly cycle. And now relate the phenomena which you observe in the annual plant with other things — above all with the custom of peasants who, when they want to keep their potatoes through the winter, dig pits of a certain depth and put the potatoes into them so that they may keep for the following year. If the potatoes were kept in an ordinary open cellar, they would not

be fit to eat. Investigations have proved that the forces originating from the interplay between the sunshine and the earth are contained within the earth during the subsequent winter months. The dynamic forces of warmth and the forces of the light are at work *under* the surface of the earth during the winter, so that in winter the after-effects of summer are contained *within* the earth. The summer itself is around us, above the surface of the Earth. In winter, the after-effects of summer work under the earth's surface. And the consequence is that the plant, growing out of the earth in its yearly cycle, is impelled to grow, first and foremost, by the forces that have been poured into the earth by the sun of the previous year. The plant derives its dynamic force from the soil. This dynamic force that is drawn out of the soil can be traced up into the ovary and on into the developing seed. So you see, we arrive at a botany which really corresponds to the whole physiological process, only if we do *not* confine ourselves to a study of the dynamic forces of warmth and light during the year when the plant grows. We must take our start from the root, and so from the dynamic forces of light and warmth of at least the year before. These forces can be traced right up into the ovary, so that in the ovary we have something that really is brought into being by the forces of the previous year.

Now examine the *leaves* of a plant, and, still more, the *petals*. You will find that in the leaves there is a compromise

between the dynamic forces of the previous year and those of the present year. The leaves contain the elements that are thrust out from the earth and those which work in from the environment. It is in the petals that the forces of the present year are represented in their purest form. The colouring and so forth of the petals represents nothing that is old — it all comes from the present year.

You cannot follow the processes in an annual plant if you take only the *immediate* conditions into consideration. Examine the structural formations which follow one another in two consecutive years — all that the sun imparts to the earth, however, has a much longer life. Make a series of experiments into the way in which the plants continue to be relished by creatures such as the grub of the cockchafer, and you will realise that what you first thought to be an element belonging to the present year must be related to the sun-forces of the previous year. — You know what a prolonged larval stage the cockchafer passes through, devouring the plant with relish all the time.

These matters must be the subject of exact research; only the guiding principles can be given from the spiritual world. Research will show that the nature of the substances in the petals and leaves, for instance, is essentially different from that of the substances in the root or even the seed. There is a great difference between a decoction prepared from the

petals or leaves of plants and an extract of substances found in roots or seeds. The effect of a decoction prepared from petals or leaves upon the digestive system is quite different from that of an extract prepared from roots or seeds. In this way you relate the organisation of man to the surrounding world, and all that you discover can be verified in a purely material sense. You will find, for instance, that disturbances in the process of the transition of the chyle into the etheric organisation, which is brought about by the system of heart and lungs, will be influenced by a preparation decocted from the *petals* of plants. An extract of *roots* or *seeds* influences the wider activity that works on into the vascular system and even into the nervous system. Along these lines we shall discover the rational connection between what is going on within the human organism and the substances from which our store of remedies may be derived.

In the next lecture I shall have to continue this subject, showing that there is an inner connection between the different structures of the plants and the systems of nerves and senses and digestion in man.

Anthroposophical Approach to Medicine 3

As we begin more and more to view the human organism in the way which I have unfortunately been able to indicate only very briefly, many things not otherwise appreciated in their full significance assume great importance. Very little heed is paid nowadays to what I have called in the appendix to my book, *Riddles of the Soul*, the *threefold organisation* of the physical being of man. Yet a right understanding of this threefold organisation is of the greatest significance for pathology and therapy. According to this threefold organisation of physical man, the system of nerves and senses is to be conceived of as being localised mainly in the head, only of course in this sense the head-organisation really extends over the whole being. The nervous and sensory functions of the skin, and also those *within* the organism, must be included. We cannot, however, arrive at a well-founded conception of the modes of activity in the organism unless — theoretically in the first place — we differentiate the system of nerves and senses from the rest of the organism as a whole.

The second, or rhythmic, system includes, in the functional sense, all that is subject to rhythm — primarily, therefore, the breathing system and its connection with the blood circulation. In the wider sense, too, there is the rhythm that is essentially present in the life of man, although he can break through it in many ways — I mean the rhythm of day and night, of sleeping and waking. Then there are other rhythms, the rhythmic

assimilation of foodstuffs and the like. These latter rhythms are constantly broken by man, but the consequences have to be brought into equilibrium by certain regulative factors which are present in the organism. As a second member of the human organisation, then, we have the rhythmic system; and, as a third member, the metabolic organism, in which I include the limb-formations because the functional processes that arise as a result of the movements of the limbs are inwardly connected with the metabolism in general.

When we consider this threefold nature of man, we find that the organisation described in the last lecture as being mainly connected with the *Ego* has a definite relation to the metabolism in so far as the metabolic system extends over the whole being. Again, the rhythmic system has a definite connection with the system of heart and lungs. The functions of the kidneys, the forces that go out from the kidney system, are related to the astral organisation of the human being. In short, in his threefold physical nature man is related to the different members of his super-sensible being and also to the several organic systems — as I showed yesterday. But these relationships must be studied in more precise detail if they are to prove of practical value for an understanding of man in health and disease. And here we shall do best to start from a consideration of the rhythmic being of man.

This rhythmic organisation is very frequently misunderstood

in respect of a very definite characteristic, namely the relation that is set up between the rhythm of the blood circulation and the rhythm of the breath. In the grown-up person, this relationship is approximately in the ratio of four to one. This, of course, is only the average, approximate ratio, and its variations in individuals are an expression of the measure of health and disease in the organism. Now, that which reveals itself in the rhythmic man as a ratio of four to one, continues in the organism as a whole. We have again a ratio of four to one in the relationship of the processes of the metabolic system (including the limbs) to the system of nerves and senses. This again can be verified by empirical data as in the case of other things mentioned in these lectures. Indeed, so far-reaching is this relationship that we may say: All the processes connected with metabolism in man take their course four times more quickly than the work done by the nervous and sensory activities for the growth of the human being.

The second teeth which appear in the child are an expression of what is proceeding in the metabolic system as a result of its coming continually into contact with the system of nerves and senses. All that flows from the metabolic system towards the middle, rhythmic system, set against that which flows from the nerves and senses system into the rhythmic system, is in the ratio of four to one. To speak precisely, we may take the breathing system to be the rhythmic continuation of the system of nerves and senses, and the circulatory

system to be the rhythmic continuation of the metabolic system. The metabolic system sends its workings, as it were, up into the rhythmic man. In other words, the third member works into the second, and this expresses itself through the rhythm of blood circulation in daily life. The system of nerves and senses, again, sends its workings into the breathing system and this is expressed through the rhythm of the breath. In the rhythmic being of man we can perceive the ratio of four to one — for there are some seventy pulse-beats or so to eighteen breaths. In the relationships of the rhythms, the rhythmic being of man represents the contact between the system of nerves and senses and the metabolic system; and this can again be observed in any given life-period of man by studying the relation of all that proceeds from the metabolism in the general organic processes to all that goes out from the head system — the system of nerves and senses. This is a relationship of great significance.

In the child's second teeth there is an upward thrust of the metabolic system into the head, but the point about this meeting between the metabolic system and the system of nerves and senses is that the latter, to begin with, gets the upper hand. The following will make this clear to you. The second dentition at about the age of seven represents a contact between the metabolic system and the system of nerves and senses, but the nervous and sensory action dominates. The outcome of this contact of forces — which

proceed from the nerves and senses on the one hand and the metabolic system on the other — is the development of the second teeth.

Again, in the period when the human being reaches puberty, a new contact occurs between the metabolic system and the system of nerves and senses, but this time the metabolic system dominates. This is expressed in the male sex by the change in the voice itself, which up to this period of life has been, essentially, a form of expression of the system of nerves and senses. The metabolic system pulses upwards and makes the voice deeper.

We can understand these workings by observing the extent to which they embrace the radiations in the human organism which originate in the kidney system and the liver-gall system on the one hand, and in the head and skin organisations on the other. This is an exceedingly interesting connection, and one which leads us into the deepest depths of the organisation of man. We can envisage the building and moulding of the organism thus: Radiations go out from the system of kidneys and liver, and they are met by the plastic, formative forces proceeding from the head. The forces from the system of kidneys and liver (naturally they do not only stream upwards but to all sides) have the tendency to work in a semi-radial direction, but they are everywhere thwarted by the plastic, formative forces which proceed from the head. We

can thus understand the *form* of the lungs by thinking of it as being organised by the forces of the liver and kidneys, which are then met by the rounding-off forces proceeding from the head. The whole structure of man comes into being in this way: radiation from the systems of kidneys and liver, and then the rounding off of what has been radiated out by the forces proceeding from the head.

In this way we arrive at a fact of the greatest importance and one which can be confirmed empirically in every detail. In the process of man's development, in his *growth*, two sets of forces are at work: (1) forces that proceed from the systems of liver and kidneys, and (2) forces that proceed from the system of nerves and senses, which round off the forms and give them their surfaces. Both components play into each other, but not with the same rhythm. All that takes its start from the systems of liver and gall has the rhythm of metabolic man. All that proceeds from the head system has the rhythm of the man of nerves and senses. So that when the organism is ready for the coming of the second teeth, at about the seventh year of life, the metabolic system, with all that proceeds from the liver and kidneys (which is met by the rhythm of the heart), is subject to a rhythm that is related to the other rhythm, proceeding from the head, in the ratio of four to one. Thus not until the twenty-eighth year of life is the head organisation of man developed to the point reached by the metabolic organisation at the age of seven. The plastic

principle in man, therefore, develops more slowly than the radiating, principle — in effect, four times as slowly.

Connected with this is the fact that at the end of the seventh year of life, in respect of what proceeds from the metabolic activities, we have developed to the point reached by growth in general (in so far as this is subject to the system of nerves and senses) only at the twenty-eighth year.

Man is thus a complicated being. Two streams of movement subject to a different rhythm are at work in him. And so we can say: The coming of the second teeth is due in the first place to the fact that everything connected with the metabolism comes into contact with the slower, but more intense plastic principle, and in the teeth the plastic element dominates. At the time of puberty, the metabolic element preponderates the plastic influences withdraw more into the background, and the whole process is expressed in the male sex by the familiar phenomenon of the deepened voice.

Many other things in the being of man are connected with this: for instance the fact that the greatest possibility of illness occurs, fundamentally speaking, during the period of life before the coming of the second teeth — the first seven years of life. When the second teeth appear, the inner tendency of the human being to disease ceases to a very great extent. The system of education which it was our task to build up compelled me to make a detailed study of this matter, for it is

impossible to found a rational system of education without these principles which concern the human being in health and disease. In his inner being, man is in the healthiest state during the second period of life, from the change of teeth to puberty. After puberty, an epoch begins again when it is easy for him to fall a prey to illness. Now the tendency to illness in the first period of life is of quite a different nature from the tendency to illness after puberty. These two possibilities of illness are as different, shall I say, as the phenomena of the second dentition and the change in the male voice.

During the first period of life, up to the change of teeth, everything goes out from the child's organisation of nerves and senses to the outermost periphery of the organism. The system of nerves and senses still has the upper hand at the change of teeth. You will be able to form a general conception of pathological phenomena during the first seven years of life if you say to yourselves: It is quite evident here that the radiations from the system of liver and kidneys are rounded off, stultified in a sense, by the plastic principle working from the system of nerves and senses. This plastic element is the main field of action of everything which I have described in these lectures as being connected with the Ego-organisation and astral organisation of man.

Now it may seem strange that I previously spoke of the Ego-organisation as going out from the system of liver and

gall and the astral organisation from the kidney system, and that I now say: everything connected with the Ego and astral organisations emanates from the head. But we shall never understand the human organism with all its complexities if we say baldly that the Ego-organisation proceeds from the system of liver and gall and the astral organisation from the system of kidneys. We must realise that in the first life-period, up to the change of teeth, these radiations from the system of liver and kidneys are worn down by the action of nerves and senses. This rounding-off process is the essential thing. Strange to say, the forces supplied to the Ego and astral organisations by the systems of liver, gall and kidneys reveal themselves as a counter-radiation, not in their *direct* course from below upwards, but from above downwards. Thus we have to conceive of the child's organisation as follows: The astral nature radiates from the kidney system, and the Ego-organisation from the liver system, but these radiations have no direct significance. Both the liver system and the kidney system are, as it were, reflected back from the head system and the *reflection* in the organism is alone the active principle.

How, then, are we to think of the astral organisation of the child? We must think of the workings of the kidneys as being radiated back from the head system. What of the Ego-organisation in the child? The workings of the system of liver and gall also are radiated back from the head system. The physical system proper and the etheric system work from

below upwards, the physical organisation having its point of departure in the digestive system and the etheric organisation in the system of heart and lungs. These organisations work from below upwards and the others from above downwards during the first epoch of life. And in the radiation from below upwards works the rhythm which is related as four to one to the radiation working from above downwards.

It is a pity that the indications here have to be so brief, but they really are the key to the processes of childhood. If you want to study the most typical *diseases of children*, you may divide them into two classes. On the one side you will find that the forces streaming from below upwards meet the forces streaming from above downwards with a rhythm of four to one, but that there is no co-ordination. If it is the upward-streaming forces with their rhythm of four that refuse to incorporate themselves into the individuality, while the inherited rhythm of the head system (representing the one) is in order, then we find all those organic diseases of childhood which are diseases of the metabolism, arising from a kind of congestion between the system of nerves and senses and the metabolic system. I mean that the metabolism is not quite able to adapt itself to that which radiates out from the system of nerves and senses. Then we get, for example, that strange disease in children which leads to the formation of a kind of purulent blood. All other children's diseases which may be described as diseases of the metabolism arise in this way.

On the other hand, suppose the metabolic organism is able to adapt itself to the individuality of the child, and the hygienic conditions are such that the child lives healthily in its environment — if, for example, we give the proper kind of food. But if, as a result of some inherited tendency, the system of nerves and senses working from above downwards does not rightly harmonise with the radiations from liver, gall and kidneys, diseases accompanied by fits or cramp-like conditions arise, the cause of them being that the Ego and astral organisations are not coming down properly into the physical and etheric organisation.

Diseases of children, therefore, arise from two opposite sides. But it is always true that we can understand these diseases of the child's organism only by directing our attention to the head and the system of nerves and senses. The metabolic processes in the child must not only be brought into harmony with outer conditions but also with the system of nerves and senses. In the first period of life, up to the change of teeth, a practical and fundamental knowledge of the system of nerves and senses is necessary, and we must observe that while in the child everything radiates from the head organisation, it is none the less possible for the metabolism to press too far forward, if it so be that the metabolism is normal, while the head organisation through hereditary circumstances is too feeble.

Now when the second life-period, from the change of teeth to puberty, sets in, it is the rhythmic organism which is the centre of activity. The astral and etheric organisations are essentially active here. Into the astral and etheric organisations between the change of teeth and puberty, streams everything that arises from the functions of the breathing and circulatory systems. The reason why the organism itself can afford the human being the greatest possibility of health during this period of life is that these systems of breathing and circulation can be regulated from outside. The health of school-children of this age is very dependent on hygienic and sanitary conditions, whereas during the first period of life external conditions cannot affect it to the same extent.

The tremendous responsibility resting upon us in regard to the medical aspect of education is that a true knowledge of man tells us that we may have dealt wrongly with the tendencies to disease which make their appearance between the seventh and fourteenth years of life. During this period the human being is not really dependent on himself; he is adjusting himself to his environment by breathing in the air and by means of all that arises in his blood circulation as a result of the metabolic processes. Metabolism is bound up with the limb-organisation. If children are given the wrong kind of drilling or are allowed to move wrongly, outer causes of disease are set up. Education during the Elementary School

age should be based upon these principles. They should be taken into strictest account through all the teaching.

This is never done in our days. Experimental psychology — as it is called — has a certain significance which I well appreciate, but among other errors it makes the mistake of speaking like this: Such and such a lesson causes certain symptoms of fatigue in the child; such and such a lesson gives rise to different symptoms of fatigue, and so forth. And according to the conditions of fatigue thus ascertained, conclusions are drawn as to the right kind of curriculum. Yes — but, you see, the question is wrongly put. From the seventh to the fourteenth years, all that really concerns us is the *rhythmic system*, which does not tire. If it were to tire, the heart, for instance, could not continue to act during sleep through the whole of earthly life. Neither does the action of breathing cause fatigue. So when it is said: heed must be paid to the degree of fatigue arising from an experiment — the conclusion should be that if there is fatigue at all, something is amiss. Between the seventh and fourteenth years our ideal must be to work upon the rhythmic system of the child and not, primarily, upon the head system. In effect, education must be imbued with the quality of *art*. Then we shall be working upon the rhythmic system, and it will be quite possible to correct all the conditions of fatigue arising from false methods of teaching. Excessive strain on the memory, for example, will always affect the breathing action, even

though it be in a mild way, and the results will appear only in later life.

At puberty and afterwards, the opposite holds good. Causes of disease may then again arise in the organism itself, in the metabolic-limb-system. This is because the food substances assert their own inherent laws, and then we are faced with an excessively strong working of the physical and etheric organisms.

In the organism of the very young child, therefore, we are essentially concerned with the Ego-organisation and the astral organisation working by way of the system of nerves and senses; in the period between the change of teeth and puberty we are concerned mainly with the activity of the astral and etheric organisations arising from the rhythmic system; after puberty we have to do with the predominance of the physical and etheric organisations arising from the metabolic system. Pathology confirms this, and I need only call your attention to certain typical diseases of women; metabolic diseases proper arise from out of the inner being after puberty — metabolism has the upper hand. The products of metabolism get the better of the system of nerves and senses instead of duly harmonising with its activities. In diseases of children before the change of teeth there is a wrongful predominance on the part of the system of nerves and senses. The healthy period lies between the change of teeth

and puberty; and after puberty the metabolic organism, with its quicker rhythm, begins to dominate. This quicker rhythm then expresses itself in all that is connected with metabolic deposits which form because the plastic forces from the head do not make a right contact with them. The result of this is that the metabolism invariably gets the upper hand.

I am very sorry that I can speak of these things only in a cursory, aphoristic way, but my aim is to indicate at least the final conclusion, which is that the *functional* activities in the human being are the primary factors, and that formations and deformations must be regarded as proceeding from these functional activities. In the outer sense this means that up to the seventh year of the child's life the plastic, rounding-off forces work with particular strength. The plastic structure of the organs is brought to such a point by the forces arising from the system of nerves and senses that the plastic moulding of the teeth, for example, up to the time of the second dentition, is an activity that never occurs again. As against this, the permeation of the organism with forces coming from the metabolism enters upon an entirely new phase when — as happens at puberty — some of the metabolic activities are given over to the sex organs. This leads to an essential change in the metabolic processes.

It is all-important to make a methodical and detailed study of the matters I have indicated to you. The results thus

obtained can then be co-ordinated in the truly scientific sense if they are brought into line with what I told you at the end of the last lecture, and related to the working of the Cosmos outside man.

How then can we approach therapeutically all that radiates out so complicatedly from the kidney system, from the liver system? We have simply to call forth changes by working on it from outside. We can approach it if we hold fast to what is observable in the plant — I mean, the contrast between the principle of growth which is derived rather from the preceding year or years, and, on the other hand, those principles of growth which come from the immediate present. Let us return once more to the plant. In the root and up to the ovary and seed-forming process we have that which is *old* in the plant, belonging essentially to the previous year. In all that develops around the corona we have that which belongs to the *present*. And in the formation of the green leaves there is a working together of the present and the past. Past and present, as two component factors, have united to produce the leaves.

Now everything in Nature is interrelated, just as everything is interrelated in the human organism, in the intricate way I have described. The point is to understand the relationships. Everything in Nature is interrelated, and by a simpler classification of what is revealed in the plant we come to the following.

In the terminology of an older, more instinctive conception of medicine we find constant mention of the *sulphurous* or the *phosphoric*. These sulphurous or phosphoric elements exist in those parts of the plant which represent in the blossom — not in the ovary and stigma — the forces of the present year. When, therefore, you make a decoction from these particular organs of the plant (thereby extracting also what is minerally active in them) you obtain the phosphoric or sulphurous principle. It is quite incorrect to imagine that the doctors of olden times thought of phosphorus and sulphur in the sense of modern chemistry. They conceived of them in the way I have indicated. According to older medicine, a decoction prepared from the petals of the red poppy, for instance, would have been “phosphoric” or “sulphurous.”

On the other hand, in a preparation derived from a treatment of the leaves of a plant, we get the *mercurial principle*, as it was called in ancient terminology. This, of course, means the mercurial nature, not the substance of quicksilver in our sense. (To use pine-needles, for example, is quite a different thing from using, say, the leaves of cabbages).

Everything connected with root, stem or seed was called the *salt-like* in older medical terminology. I am saying these things only for the sake of clarity, for with our modern scientific knowledge we cannot go back to older conceptions.

A series of investigations should be made to show, let us say, the effects of an extract prepared from the roots of some plant on the head organisation, and hence on certain diseases common to childhood.

A highly significant principle will come to light if we investigate the effects of substances drawn from the roots and seeds of plants on the organisation of the child before the change of teeth. Again, for illnesses of the kind that come from outside — and, fundamentally speaking, all illnesses between the change of teeth and puberty are of this kind — we obtain remedies, or at least preparations which have an effect upon such illnesses, from leaves and everything akin to the nature of leaves in the plant. I am speaking in the old sense here of the mercurial principle, which we meet in a stronger form in quicksilver itself. The fact that mercury is a specific remedy for certain sexual diseases, externally acquired, is connected with this. Sexual diseases are really nothing but the intensification of illnesses that may arise in an extremely mild form in the second period of life, from the seventh to the fourteenth years. They do not then develop into sexual diseases proper because the human being is not yet sexually mature. If it were otherwise, a great many diseases would attack the sexual organs. Those who can really perceive this transition from the eleventh, twelfth and thirteenth years, on into the fourteenth, fifteenth and sixteenth years, will realise that at this age symptoms that arise in

earlier life in quite another form express themselves as abnormalities of the sexual life.

Further, there are diseases which have their origin in the metabolism. In so far as the metabolism is bound up with the physical and etheric systems of man, we find diseases which must be considered in connection with the workings of the *petal* nature of plants.

The cursory way of dealing with these matters which is necessary here may make a great deal appear fantastic. Everything can, nevertheless, be verified in detail. The obstacles that make it so difficult to approach orthodox medicine are really due to the fact that, to begin with, it all seems beyond the range of verification. We have to reckon with such intricate phenomena in the human organism as the particularly striking example of which I spoke at the beginning of this lecture, describing it in such a way that it was apparently irreconcilable with what I said yesterday. It clears up, however, when we realise that what goes out from the system of liver and kidneys emerges first in the *reactions* it calls forth, and in this sense it represents something quite essential for the Ego-organisation and astral organisation of man. In this case it is especially evident. But there is a similar principle of immediate co-operation and counter-action between the rhythms of the blood and of the breathing. Here, too, many an influence that proceeds from the rhythm of the

blood must first be looked for in the counter-beat of the breathing rhythm, and *vice versa*.

And now connect this with the fact that the Ego-organisation really lives in the inner warmth of man, and that this warmth permeates the airy, gaseous being. In the forces proceeding from the Ego and astral organisms, we have, from a physical point of view, something that is working primarily from the warmth organisation and the airy, gaseous organisation. This is what we have to observe in the organism of the very young child. We must seek the cause of children's diseases by studying the warmth and airy organisations in the human being. The effects that appear when we work upon the warmth and airy organisations with preparations derived from roots or seeds, are caused by the fact that two polaric forces come into contact, the one stimulating the other. Substances taken from seeds or roots and introduced into the organism stimulate all that goes out from the warmth organisation and the airy organisation of the human being.

Now in the influences working, so to speak, from above downwards, we can discern in the human being, from the very outset, a warmth and air vibration which is strongest of all in childhood, although in reality it is not a vibration but a *time-structure* of a living kind — an organic structure in the flow of time. And on the other hand we have that in the physical-etheric organism which goes from below upwards — that is to

say, the solid and fluid organisation of man. Moreover these two are in mutual interaction, inasmuch as the fluid and gaseous organisations permeate one another in the middle, bringing forth an intermediate phase by their mutual penetration, just as there exists in the human organism the well-known intermediate stage between the solid and the fluid. So likewise in the living and sentient organism we must look for an intermediate phase between the fluid and the gaseous, and again a phase between the gaseous and the element of warmth.

Please note that everything I am saying here in a physiological sense is of importance for pathology and therapy. When we observe this intricate organism of man we find, of course, that one system of organs is perpetually pouring out its influences into another system of organs. If we now observe the whole organic action expressed in one of the sense-organs, in the ear, for example, we find the following: Ego-organisation astral organisation, etheric and physical organisations are all working together in a definite way. The metabolism permeates the nerves and senses; rhythm is brought into this by the processes of breathing in so far as they work into the ear, and by the blood circulation. All that I have thus tried to make plain to you in diverse ways, threefold and fourfold (in the three members of the human being and in the fourfold organisations which I explained) — all this finds expression in definite relationships in every single organ. And

in the long run, all things in man are in constant metamorphosis.

For instance — that which occurs normally in the region of the ear, why do we call it normal? Because it appears precisely as it does in order that the human being as a whole, even as he lives and moves on earth, may come into existence. We have no other reason to call it normal. But consider now the special circumstances, the special formative forces that work here in the ear by virtue of the ear's position, notably by virtue of the fact that the ear is at the periphery of the organism. Suppose that these circumstances are working in such a way that a similar relationship arises by metamorphosis at some other place in the interior of the body. Instead of the relationship which is proper to that place in the body, there arises a relationship among the various members similar to what is normal in the region of the ear. Then there will grow at this place in the body something that really tends to become an ear — forgive this very sketchy way of hinting at the facts. I cannot express what I want to say in any other way, as I am obliged to say it in the briefest outline. For instance, this something may grow in the region of the pylorus, in place of what should arise there. In a pathological metamorphosis of this kind we have to see the origin of tumours and similar formations. *All tumour formations, up to carcinoma, are really misplaced attempts at the formation of sense-organs.*

If, then, you bear in mind that the origin of a morbid growth is a misplaced attempt at the formation of a sense-organ, you will find what part is played in the child's constitution — even in embryonic existence — by the organisms of warmth and air in order that these sense-organs may come into being. These organs can indeed be brought into being only through the organisms of warmth and air by virtue of the resistance of the solid and fluid organisms, which results in a formation composed of both factors. This means that we must observe the relationship existing between the physical organism (in so far as this expresses itself in the metabolism, for example) and the formative, plastic organism (in so far as this expresses itself in the system of nerves and senses). We must, so to speak, perceive how the metabolic system radiates out the forces which bear the substance along with them, and how the substance is plastically moulded in the organs by the forces brought to meet it by the system of nerves and senses.

Bearing this in mind, we shall learn to understand what a tumour-formation really is. On the one side there is a false relationship between the physical-etheric organism in so far as it expresses itself in the radiating metabolic processes on the one side, and between the Ego-organisation and astral organism on the other (in so far as the Ego and astral organisations express themselves in the warmth and airy organisations respectively). Ultimately, therefore, we have

above all to deal with the relation between the metabolism and the warmth organisation in man, and in the case of an internal tumour — although it is also possible with an external tumour — the best treatment is to envelop it in warmth. (I shall speak of these things to-morrow when we come to consider therapy). The point is to succeed in enveloping the tumour with warmth. This brings about a radical change in the whole organisation. If we succeed in surrounding the tumour with warmth, then — speaking crudely — we shall also succeed in dissolving it. This can actually be achieved by the proper use of certain remedies which are injected into the organism. We may be sure that in every case a preparation of viscum, applied in the way we advise around the abnormal organ — for instance around the carcinomatous growth — will generate a mantle of warmth, only we must first have ascertained its specific effect upon this or that system of organs. We cannot, of course, apply exactly the same preparation to carcinoma of the breast as to carcinoma of the uterus or of the pylorus. Further, we can be sure that no result will be achieved if we do not succeed in producing the right reaction — namely, a state of feverishness. The injection must be followed by a certain rise in the patient's temperature. You can at once expect failure if no condition of feverishness is produced.

I wanted to tell you this as a principle in order to make you understand that these things depend upon a ratio; but the ratio is merely a regulating principle. You will find that the

statements based on this principle can be verified, as all such facts are verified by the methods of modern medicine. There is no question of asking you to accept these things before they have been tested, but it is really true that anyone who enters into them can make remarkable discoveries.

Although this brief exposition may be first be somewhat confusing, everything will clear up if you will go into the subject deeply.

To-morrow I propose to speak of certain matters in the realm of therapy, and then a great deal which seems to have been left rather in the air will be further explained.

Anthroposophical Approach to Medicine 4

In these lectures, of course, it can be a question only of describing certain ways of approach and therapeutic methods, as revealed by Spiritual Science. The short time at our disposal makes it impossible to enter into details. My own opinion, however, is that at the beginning of the work which it is the aim of Spiritual Science to carry through in the domain of medicine, the most important thing is for our point of view and our method of approach to be made quite clear. In certain specific details this point of view has been carefully followed in the preparation of our remedies. How we can proceed to form more general conceptions in special cases of illness will perhaps not be so immediately evident, but in describing certain principles of method to-day I will do my best to indicate matters which will help in this direction also.

The human organism in health and in disease — or rather in its state of health and in its approach towards health — is really unintelligible unless the so-called normal functions are regarded as being, fundamentally, metamorphoses of those functions which must be called into action in order to combat pathological conditions. And here we must always take account of the fact that the human organism is inwardly filled with processes which are not the same as those in the outer world. To begin with, let us remind ourselves that everything man takes into himself from the plant world, for instance, must be worked upon by the digestive system before it can be

carried to a higher stage of life. The process of vitalization must be an activity of the human being himself; indeed, the human organism could not exist without it. Now it must be clear to us from the outset that the plant-covering of our earth is passing through the opposite process from that which takes its course within the organism of man. When we speak of a process of vitalisation along the path traversed by the foodstuffs in the organism — that is to say of a curve ascending, as it were, from the essentially inorganic to the state of vitalisation, from there to a condition which can be the bearer of feeling and finally to a condition which can be the bearer of the Ego-organisation — when we speak of the transformation of the foodstuff up to the point where it is received into the astral organism (the bearer of feeling), we are describing a process of *increasing* vitalisation of what is taken in through the food.

The reverse occurs in the plant. In all the peripheral organs of the plant, that is to say in the development of the plant from below upwards, in the production of the leaves and blossoms, we have, fundamentally speaking, a process of *devitalisation*. The vitality *per se* is preserved for the seed only. If we are speaking of the actual plant itself — for the seed in the ovary really represents the next plant that will come into being, that which is stored up for the future plant — if, as I say, we are speaking of the plant, it is not a process of vitalisation that is taking place from below upwards. The vitality is drawn from

what is stored up by the earth out of the warmth and sunlight of the previous summer. The strongest life-force inheres in the *root-nature*, and there is a gradual process of devitalisation from below upwards.

In flower-petals which contain strong ethereal oils, we have an expression of the most powerful devitalising process of all. Such a process is, for instance, often connected with the actual production of *sulphur*. The sulphur is then contained, as substance, in the ethereal oil of the petals — or is at any rate closely akin to it and is responsible for the process whereby the plant is led over into the realm of the most delicate inorganic substance — which is still, however, on the borderline of the organic. It is essential to realise what it is that we are bringing into the human organism when we introduce plant-substances. The plant is engaged in the opposite process from that which occurs in the organism of man.

If we start from this and turn to consider illness and disease, we shall say to ourselves: Plant-substance — it is the same with other substances in outer Nature, and to a much higher degree with animal-substance — plant-substance is really opposed to that which unfolds in the human organism as a tendency to generate this or that process. So that when, without any kind of preconception, we study the *process of nourishment* in man, we must admit that

all foodstuff introduced into the organism is something which this organism has utterly to transform. Fundamentally speaking, all nourishment is the beginning of a certain poisoning. Actual poisoning is only a radical metamorphosis of what arises in a mild form when any foodstuff is brought into touch, let us say, with the ptyalin. The further course of the digestive process, namely what is brought about by the activity of the kidneys which I described to you, is always a process of eliminating the poisoning. So that we pass through the rhythm of a mild poisoning and its elimination simply when we eat and digest our daily food. This represents the most delicate metamorphosis of the process which arises in greater intensity when a remedy is introduced into the organism. That is why in the nature of things it is nonsense to be fanatical about medicine that is 'free from poison.' It is nonsense because the only point at issue is this: In what way are we intensifying what already happens in ordinary digestion by introducing something into the organism that will give rise to a process more foreign to this organism than ordinary digestion?

A very profound understanding of the human organism is necessary before we can estimate the value for it of an external remedy. Let us begin with something that is always present as a remedial agent in the human organism — the *iron in the blood*. The iron in the blood unceasingly plays the role of a remedial agent, protecting man from his innate

tendency to disease. I will describe it to you, to begin with, in a primitive way. You know that if the brain, with its weight of some 1,500 grammes, were to rest upon its base, the cerebral blood-vessels there would obviously be crushed. The brain does not rest upon its base but swims in the cerebral fluid, and in accordance with the principle of buoyancy, loses as much of its weight as the weight of the volume of fluid displaced. Thus the brain presses on its base with a weight of only about 20 grammes, instead of 1,500 grammes. This is a fact of fundamental importance because it shows us that the force of gravity is not the determining factor in that which underlies the functions of the brain, in Ego-activity, for instance. This Ego-activity and also, to a great extent, conceptual activity — in so far as it is not volitional but purely conceptual, ideative activity — is not dependent on the gravity of the substance in question but on the force of buoyancy. (I am speaking here entirely of the physical correlate, namely, the brain activity.) It is dependent on the force which strives to *alienate* the substance from the earth. In our Ego and our thoughts we do not live in the element of weight, but in the force of buoyancy.

The same thing holds good for much else in the human organism — above all, the iron-bearing corpuscles swimming in the blood. Each of these corpuscles loses as much of its weight as the weight of the volume of fluid displaced. And now, if our soul-being lives in the force of buoyancy, just think

what this possession of iron-bearing blood corpuscles must mean for the whole life of feeling and perception, indeed for the whole life of the organism. In other words: If in a given case there is irregularity in what is going on in the blood simply as a result of the buoyancy of the iron-bearing corpuscles, we know that iron in some form or other must be introduced, but in such a way, of course, that the iron will unfold a right action in the blood, and not elsewhere.

In terms of Spiritual Science, this means that the *relation of the etheric to the astral organism* of man is bound up with the iron-content of the blood. And if we understand how the activities of heart and lungs lead over into the realm of life all that is taken up by the organism, and how the kidneys in turn lead this over into the astral organism, we shall not be far from the realisation that balance must reign here. If there is no balance, if either the etheric or the astral activity becomes too intense, the whole organism is bound to fall into disorder. The possibility, however, of promoting the corresponding balance, of enabling the organism to lead the necessary amount of foodstuff into the domain of the kidney activities, is provided by regulating the iron-content in the blood. And by imbuing the actual dynamic element in the blood either with weight or with the force of buoyancy — according to how we regulate the iron-content — we are thereby regulating the whole circulation of blood, which in turn reacts upon the kidney activities. In adding to or decreasing the iron-content we have brought

about a fundamental regularisation of the blood circulation: that is, of the interplay between the etheric and astral parts of man.

And now let us take a concrete case. Suppose we have flatulence as a primary symptom. I am choosing a crude example for the sake of clarity. What does flatulence indicate to one who has insight into the human organism? It indicates the presence of aeriform organisations in which the astral organism is working with excessive strength and which are being dispersed too slowly. They are formations which have been brought about by the astral organism — which works, of course, in the gaseous being of man — and they conglomerate instead of forming and dissolving in the regular way. That is what is happening when flatulence is present. Now because the astral activity is excessively strong it influences the whole activity of the senses, especially the activity of the head. The astral activity congests and does not properly distribute itself in the organism; hence it does not work as it should into the metabolic processes, but turns back to the system of nerves and senses with which it is more closely related. And so we shall very soon find that something is amiss with the system of nerves and senses, too — or at all events we may assume that here is a complex of symptoms where the nerves and senses are not working in the right way. And now I must add something in connection with the irregular working of the nerves and senses.

Physiology really talks nonsense about the nerves and senses. Forgive me for saying this — I am expressing myself radically only in order that we may understand each other. You must take such statements with the familiar ‘grain of salt,’ for if I compromise too much in what I say we shall not find it so easy to understand these things.

Supersensible observation of the human organism reveals that any given function which can be demonstrated in the sense of objective empiricism, is, from the higher point of view, the material reflection of something *spiritual*. The whole human organism is the material reflection of Spirit. But the interaction between the Spirit and soul and the physical-organic nature of man is by no means so simple in the case of the system of nerves and senses as is generally imagined.

Take the physical organisation of man. It is not true — as many people would like to assume — that with the exception of the nervous system and the senses, the physical organisation constitutes one whole, and that the nervous system is inserted into this structure in order independently to serve the life of soul. That is putting it rather radically, of course, but if we come down to the practical considerations underlying the physiological theory, something of the sort comes to light. That is why it is almost impossible to-day to form any rational opinion of functional diseases, nerve-troubles and the like, as they are often called. There is

nothing in the human organism that does not belong to the *whole* organism; that does not interact with other organs. It is not a question of the rest of the organism being left to its own devices and an independent nervous system being inserted, heaven knows by what divine power, in order that the organism may become soul! Look for evidence of this and you will not need to look far. The nervous system is primarily that from which the formative, rounding-off forces of the organism go out. The form of the nose, the form of the whole organism is shaped, fundamentally, by the influences proceeding from the nervous system. The kidney system radiates out the forces of matter, and the nervous system is there to give the organism its forms, both inwardly and outwardly. To begin with, the nervous system has nothing to do with the life of soul; it is the moulder, the form-giver of the human organism, inwardly and outwardly. In short, the nervous system is the sculptor.

In the early stages of individual development, a certain portion of nerve-activity which the organism does not use for formative functions separates off, as it were, and to this the being of soul adapts itself more and more. That, however, is secondary; we must observe this separation of a part of the nerve-process in very early childhood, and the adaptation of the soul-life to these formative principles, if we are to get down to the empirical facts. There is no question of the nervous system being laid into the human organism as the

result of some kind of divine ordinance to form the basis for the life of volition, feeling and thought. The life of nerves and senses comes into being with a sort of hypertrophy, part of which is preserved, and to this the activity of the soul then adapts itself. The primary function of the system of nerves and senses is *formative, form-giving*. The forms of all the organs are sculptured by the system of nerves and senses.

If you want to verify this, begin by taking the senses that have their seat in the skin, are spread out over the whole skin — the senses of warmth and of touch — and try to envisage how the whole form of the human organism is plastically moulded by these senses, whereas the forms of the special organs are built up by other senses. Sight itself is due to the fact that something remains over from the formative force proceeding originally from the visual tract for the building of the cerebral organs, and then all the psychical elements developed in the faculty of sight adapt themselves to this “something” that has been left over.

We shall never have real insight into the being of man if we do not realise that as metabolism goes on unceasingly within us, day by day, year by year, our organs must first be provided for by all that radiates out from the kidneys, and then rounded off. The substance that is radiated out by the kidneys must continually be rounded off, worked upon plastically. Throughout the whole span of man’s life this is done by the

nerve-organs which extend from the senses towards the inner parts of the human organism. Higher sense-activity, image-building mental activity and the like, are simply the result of an adaptation of the being of soul to this particular tract of organs.

Now, if flatulence in the complex of symptoms confirms the fact that the astral organisation is working too strongly, this shows that the excessive astral activity is tending in the direction of the formative forces of the senses. In the upward direction and towards the periphery there is not only a congestion of astral activity, but these gas-bubbles, which are really striving to become organs, are rounded off still more completely. In other words, as the result of excessive activity on the part of the kidneys, a continual attempt is being made in the upper man to hold back the Ego-organisation above and not to allow what passes into the organism through the blood to return in the proper way. Hence, associated with the complex of symptoms of which I am now speaking, we shall often find cramp-like conditions, even fits, which are due to the fact that the astral forces are not passing rightly into the rest of the organism. If they are congested above, they do not pass into the other parts of the organism. In these other parts of the organism we notice cramp-like phenomena which are always due to the fact that the astral forces are being held back. In such cases the astral nature is being checked, and by studying a complex of symptoms of this kind in the light of

the super-sensible, we can eventually relate the outer facts to their inner causes.

Think of it: the astral is held back above, and as a result the metabolism is drawn upwards; the astral body is not making proper provision for the kidneys, and even less for the stomach; the stomach which is receiving too little from the astral organism begins to fend for itself. Outwardly, there will be colic and cramp-like conditions of the stomach. Again, spasmodic conditions may arise in the sexual organs because they are not properly permeated by the astral organisation, or there may be stoppages of the *periods*, due to the fact that the Ego-organisation is held back above.

Now let us ask ourselves: How can we influence irregularities of this kind? The best thing, to begin with, is to realise that the magical names given to illnesses merely serve the purpose of conventional understanding; the essential point is to observe what really groups itself together and interweaves among the several symptoms. But we must be able to judge of the nature of these symptoms. Suppose we are considering the function attaching to a flower containing *sulphur*. If a flower contains a certain amount of sulphur, this means that an active process is on its way to an inorganic state which is still akin to the organic. If we introduce a remedy prepared from such a flower, or even the sulphur produced by the flower, into the human organism, the

processes in the digestive tract will be roused to greater activity. The stomach, and subsequently the intestinal activity, will be stimulated by a decoction of flower-petals containing sulphur, because, as I have already said, a process of *devitalisation which must be reversed* is taking place in the plant. And again, indirectly, the irregularity which has appeared in the action of the kidneys is stimulated to a strong reaction, and we have, to begin with, the possibility of counteracting the congestion above by means of a strong counter-pressure from below. (The forces working here are for the most part only fleeting in their effect, but if we give temporary help to the organism it will usually begin to help itself.) The astral organisation will, as it were, again be drawn into the digestive tract, and the result will be a cessation of the attacks of colic and gastric convulsions. Such a remedy by itself, of course, will suffice only in the rarest cases. It will probably be adequate when the gastric trouble is slight. The organism must never be over-stimulated; whenever it is possible to use a weaker remedy we should avoid a stronger one.

Suppose we have before us a complex of symptoms such as I have just described. The disturbance being very severe, we will assume that demands are being made on the overactive astral body by an excessive activity on the part of the kidneys. The astral body works with undue strength into the sense-organisation, which is thereby weakened and

undermined. As sense-organisation it is not really undermined, but the astral organism is working in it so strongly that the formative forces of the nerves and senses are, as it were, smothered by the activities of the astral organism. Neither the sense-organs nor the system of nerves and senses as a whole are in themselves less active, but they do not work in their own characteristic way. They take on, as it were, the organisation of the astral and become as active as the astral organism itself. This means that they are not rightly performing their form-giving functions. We must apply something whereby this astral activity is lifted out of the system of nerves and senses: namely, a remedy that works upon the system of nerves and senses which stands in closest connection with the outer world and which, as organisation, is nearest of all to the inorganic state.

The physiology of the senses is fortunate because in the sense-organs there are so many inorganic, so many purely physical and chemical elements. Think how much in the eye lies in the domain of pure optics. A great deal in the eye can be beautifully depicted if one treats it merely as a kind of photographic apparatus. In saying this I want only to indicate that we are co-ordinated with the outer world precisely through the sense-organs, and that the senses are channels through which the outer world flows into us by way of the *inorganic*.

Now when it is a question of giving support to this particular activity of the nerves and senses, we can do it very well by introducing *silicic acid* into the organism, for silicic acid has an affinity with these inorganic activities at the periphery. We drive the astral organisation out, as it were, by means of the forces inherent in everything that underlies the formation of silicic acid, for this inclines so very strongly, even in outer appearance, towards the inorganic state. When silicic acid is present in any flower you will invariably find that the flower is brittle or prickly, pressing on to the inorganic state. Thus we can relieve the sense-organs by administering silicic acid, and also by supplying the organism with more *sugar* than it has in the ordinary way. Sugar, too, is a substance that is so worked upon in the human organism that it finally comes very near to the inorganic. Thus everything we introduce by way of sugar relieves the sense-organs. If conditions allow, this process can also be strengthened by the administration of alkaline salts, which are well calculated to relieve the nervous system of astral activity. These are matters which should be verified by a series of empirical investigations.

Spiritual Science thus enables us to arrive at guiding principles. With the faculty developed by intuitive knowledge we can perceive, for instance, the after-effects of sugar, particularly in those parts of man's nervous system which run from the central nervous system to the senses; the after-effects of silicic acid tend towards the peripheral activities

unfolding in the senses. These things can all be verified and proved. And so, when a severe complex of symptoms such as I have described, is present, we shall find the following of benefit: remedies composed simply of *alkaline salts*, which do much to relieve the nerve-activity of the astral nature; of *sugar* (not of course administered in the ordinary amount but in an unusual one); and of *silicic acid*.

The best remedial effects of these substances will be obtained simply by the administration of a proper preparation of the roots of *chamomile*. It may surprise you that I speak of a root, but the points of view intersect and we must realise that when the symptoms are severe, sulphur and blossom-products are not efficacious. What we do need is a substance that is contained still in a highly vitalised state in the plant, so that the long process it has to undergo will make the reaction vigorous enough. If we introduce a suitable dosage of these substances, as they are found in the root of the chamomile, into the digestive tract, the reaction in this case will not be strong enough to allow the vitalisation to take place at the point of transition from the intestines to the blood; what is contained particularly in the sugar and silicic acid, but also in the alkaline salts, will simply be forced through in an untransformed state. This gives the kidneys a chance to absorb it into their radiations, and the substances so absorbed are then impelled by the action of the kidneys towards the sphere of activity of the nerves and senses, which

are thereby relieved of the astral functions.

If we really have insight into these matters, if we realise that this mode of therapeutic procedure leads to the best results, much can be learnt. Moreover, we can very easily be led to other things. We can see how what is absorbed is transformed in the human organisation: thereupon the activity of the kidneys sets to work, receiving what is supplied to it along the channels of the blood and radiating it out; the plastic activity then reacts in its turn. Then we begin to perceive that this plastic activity in its pure form is restored by the administration of silicic acid, sugar and alkaline salts. To super-sensible vision, silicic acid, alkaline salts and sugar, in the right proportions, form a kind of *human phantom*; something like a phantom is there before us if we think of these substances in regard to their form-building forces. They are pre-eminently sculptors; they bear the plastic principle within them — as is evident even in their outer formation.

The strong action of silicic acid is due, in the first place, to the fact that when the substance appears in the inorganic realm, it has the tendency to form itself into elongated crystals. The results obtainable with silicic acid could not be reached with substances which have the tendency to develop into rounder, less elongated crystals. With such substances it might conceivably be possible to cure a hedgehog but not a human being, whose very principle of growth shows

tendencies to elongation.

Those who have no feeling for this artistry in Nature — an artistry with which the organism is moulded chiefly by the activity of nerves and senses-cannot discover in any rational sense the relations between substances in the outer world and what is taking place in the human organism. Yet there is indeed a rational therapy — a therapy which is able to perceive processes which run their course in the outer world, are broken down, as it were, in the human organism, and can then be radiated out by the kidneys and taken hold of, finally, by the plastic activity of the organisation of nerves and senses.

Let us take another example. Suppose that the radiating action of the kidneys, instead of being too strong, is too weak — that is to say, too little of the foodstuff is being drawn up into the astral organisation.

All that I described in the previous complex of symptoms is due to excessive working of the astral organism. The astral organism is active particularly in the upper man and holds itself aloof from the activities of digestion, heart and lungs; and as an accompanying phenomenon we shall find the formation of phlegm and the like, which is quite easy to understand. Thus in the previous case we have to do with an excessive astral activity.

Now suppose that the astral activity is too feeble. The radiating activity of the kidneys is unduly weak, so that the astral organism is not in a position to supply to the formative, plastic forces what it ought to give them when it enters their domain. The formative force cannot then work itself into the astral organism because the latter does not reach sufficiently to the periphery. The result is that no active contact is established between the formative force and the force proceeding from the circulation of the food-substances and their distribution. The substance is distributed without being taken in hand by the formative force. Insufficient plastic force is unfolded and the substance is abandoned to its own life; the activity of the astral body is too fleeting and does not work properly in the transformation of the substances.

Such a state of affairs may certainly be regarded as a complex of symptoms. How it will express itself? Above all, that which is coursing in the blood-vessels will not be taken up in the proper way by the feeble action of the kidneys; that is, by the astral organisation which is working with insufficient power. It collapses, as it were, resulting in hæmorrhoids or excessive menstruation. The contact fails and the metabolism lapses back into itself. In this condition of the organism it is specially easy for a state of 'fever of occult origin' — as it is called — to arise, or a condition of intermittent fever.

And now the question is: How can we attack this complex of

symptoms? The activity of the astral organism is too feeble. We must stimulate the action of the kidneys in order that sufficient material may be sent up into the astral organism. The best thing to do here is to restore the balance between the etheric and astral organisms. Then, simply on account of what passes from the digestive tract into the system of lungs and heart, we get the proper transition to the activity of the kidneys. We obtain a kind of balance, and in many cases we can control it precisely by regulating the iron-content in the organism which governs the circulation. This will now stimulate a strong, inner activity of the kidneys which will be demonstrated outwardly in a change in the excretions of urea through the kidneys, as well as through the perspiration. This will be quite evident. But of course in very many cases we must realise that this balance is always very delicately poised, and that only in the crudest cases will the remedial agent in question here, which man already bears within him, be of assistance.

Whereas in the digestive tract substances containing sulphur in some form are the most effective, and in the system of nerves and senses (the formative principle) substances such as silicic acid and alkaline salts, *pure metals* are the substances which regulate the balance between the forces of gravity and buoyancy. We need only try out how they must be applied in order to restore the disturbed balance in the most varied ways. We start from iron. According to the

complex of symptoms, the most suitable metal may be gold, or perhaps copper. If the form of disease makes us sure of our ground, highly important results will be obtained from the pure metals. If the interplay between the functions of form-building and the breaking-down of form is such that there is too little form-building and this state of affairs becomes organic — if, therefore, the primary cause of the trouble is that the relation between the system of heart and lungs and the kidney system is upset — we shall achieve the best results with *iron*.

But if, as the result of lengthy disturbances in the processes, the organs themselves are impaired, and have already suffered from a lack of plastic activity because the plastic forces have not been able to reach them, we may have to apply *quicksilver*. Because quicksilver already has the forces of form, the durable metallic drop-form within itself, it has a definite effect upon the lower organs of man. In the same way we can discover definite connections between metals and the organs of the head that have been attacked and injured, for instance when the nervous system itself is involved. But here it will be a good thing not to confine ourselves to setting up a stable balance as against the vacillating balance. This is extraordinarily difficult. This balance is just like a very sensitive pair of scales. We try in every possible way to make the scales balance and it is almost impossible. We shall get at it more easily, however, if

we do not merely concern ourselves with the balancing, but with the pans themselves. We can give support, for instance, to the working of the iron by introducing sulphur into the digestive tract, and providing a counter-action in the nerves and senses system by means of alkaline salts. Then in the middle, rhythmic system of man we shall have iron at work; potassium, calcium or alkaline salts in the nerves and senses, and sulphur in the rhythm of digestion. That is the better way to set about restoring the balance.

Now the remarkable thing is that we find the very opposite state of affairs in the leaves of certain plants. If, for instance, we prepare the leaf of *urtica dioica*, the ordinary stinging-nettle, in the right way, we have a remedy composed of sulphur, iron and certain salts. But we must really know how to relate the *devitalising* force that is present in the plant to the *vitalising* force that is present in the human organism. In the root of *urtica dioica* it is indeed true that the whole sulphur-process is tending gradually to the inorganic state. The human organism takes the opposite course, and so transforms the sulphur by way of the albumen that it gradually brings the digestion into order. The iron in *urtica dioica* works from the leaves in such a way that in the very seed, and thereby once more in next year's leaves, this plant thrusts apart the very thing that *brings together* the rhythmic process in the human organism. In fact, the stinging power of the nettle leaves is this destructive process that must be

overcome if the rhythmic process in the human organism is to be regulated. Again, the alkaline salt content of the plant is least of all transformed into inorganic matter. Therefore it has the longest way to go. It goes right up to the nerves and senses organisation; goes up quite easily because, in any case, with the complex of symptoms we are now considering, the activity of the kidneys is asleep and suppressed. In the human organism we have actually the opposite of what is expressing itself outwardly in the formation of the plants. But there is no need to confine ourselves merely to plant-remedies; synthetic remedies may also be prepared and cures effected by combining the substances I have mentioned in a suitable dosage.

These are matters which will gradually transform therapy into a rational science, but a science that is really an *art*, for it can no more exclusively be science than a man who is not an artist can be a sculptor. He may have a splendid knowledge of how to guide his chisel and how to mould the clay, but there must always be an element leading over into the realm of art. Without this, true therapy is impossible. We must really get the right touch — in a spiritual sense, of course — for determining the dosage. This will not suit all those who would like to turn medicine into a pure science, but it is true, nevertheless.

And now let me indicate, merely by way of example,

another state of affairs that may arise. There may be a disturbance of the interaction between what the organism produces by way of inorganic material, as a preliminary to leading it over into the realm of organic life, and the subsequent intervention of the etheric body and the action of heart and lungs. A disturbance may arise here. The greater the age of a man, the more apparent is the disturbance. The digestive tract and the vascular system are not working properly together. When this sets in, we must remember that the consequence will be an accumulation of the products of metabolism. If the substances are not being properly distributed in the organism, the natural result is an accumulation of the products of metabolism. And here we come to the whole domain of diseases of metabolism, from the very mild to the most severe forms. We must realise that in such cases something is amiss with the activity of the kidneys, too, for the reason that because of the antecedent congestion the kidneys are receiving nothing which they can radiate out.

This gives rise to highly complicated forms of disease. On the one hand the action of the digestion and the kidneys provides nothing by way of material upon which the plastic, form-giving activity can work, and on the other, as the result of a stultification of this plastic activity, we have a disturbance of the organic balance from the other side. The plastic force, too, gradually ceases to function. The products of metabolism

spread themselves out in the organism but fail, little by little, to be received into the field of the plastic activities and used as modeling material. And then there arise certain metabolic diseases which are so highly resistant to treatment. The proper course is to stimulate in the digestive tract, and then also in the domain of heart and lungs, all that is akin to elements that are on their way to the inorganic state — akin, that is, to the sulphuric or phosphoric elements connected, in the blossoms of plants, with the ethereal oils. We attempt to stimulate this in the digestive system and in the system of heart and lungs; also we stimulate the activity of the kidneys and thereby help the plastic forces. In this type of disease it is of great importance to bring influence to bear on the digestive apparatus.

Now the activity of the kidneys and the excretion of sweat are in a certain sense polar opposites; in other words they are intimately related to one another. And if, as a consequence of what I have described, the kidneys are not acting properly, we shall always find that there is less perspiration. Great attention should be paid to this, for whenever there is a decrease in the perspiration, we may be sure that something is amiss with the action of the kidneys. What is happening, as a rule, when the perspiration decreases, is that the kidneys are like a machine which has nothing to work upon but continues to act, while the products of digestion are already congested and are spreading unduly over the organism. If by the outer or inner

application of sulphur treatments (for we can work just as well from the skin as from the kidneys themselves) we succeed in stimulating the digestive tract to such an extent that it, in turn, stimulates the activity of heart and lungs so that material is again supplied to the kidneys, instead of lying fallow before it reaches them, we may also succeed in getting the better of these diseases of metabolism.

But in all these matters we must be quite clear that the human organism is something that does not want to be absolutely cured, but only stimulated to unfold the healing process. This is a fact of supreme importance. In the state of illness, the human organism wants to be stimulated to unfold the healing process. If the healing is to be permanent we must actually limit ourselves to giving a mere stimulus. For a cure which apparently happens at once leads much more readily to relapses than a cure which merely stimulates the healing process. The organism has first to accustom itself to the course of the healing process, and is then able to continue it by virtue of its own activity. In this way the organism binds itself much more intimately to the healing process, until such time as the reaction again sets in. If for a certain length of time the organism can be made to adjust itself to the healing process, that is the best possible cure, for then the organism actually absorbs what has been transmitted to it.

I have been able only to give you certain hints as to

method, but you will realise that in what I call a spiritual-scientific enlightenment of physiology, pathology and therapy, it is a question of understanding that man is not an isolated being but that he *belongs to the whole Cosmos*, further, that in connection with any process taking place in the human being in an ascending curve, let us say, we must seek *outside* man, in Nature, for the descending curve. In this way we shall be able to modify curves that are ascending too abruptly. Medicine indeed demands in a certain respect a knowledge of the whole world. I have given only a tiny fragment, but it indicates that there must be an entirely different understanding of the nature of *urtica dioica*, *colchicum autumnale*, or indeed of any other plant. The plants themselves must tell us whither their descending tendency is leading.

Take the case of *colchicum autumnale*, the autumn crocus. First you must perceive when you approach this plant that the time of the year in which it appears is not without significance for its whole structure, for this brings about a certain relation to the devitalising process. That the devitalisation is very slight in *colchicum autumnale*, you can see from the very colour of its petals and the time of its flowering. If you then experiment with *colchicum autumnale*, you will find that the human organism must exert itself up to a very high level to bring about the opposite vitalisation, that is to say — if I may express it crudely — to get the plant dead and then alive

again. Indeed, this whole process plays right up into the thyroid gland. And now you have the basis for a series of investigations with *colchicum autumnale* as a remedy for enlargements of the thyroid gland.

Let me assure you once again that there is no question of a profitless, amateurish abuse of modern scientific methods, but rather of giving guiding lines which will actually lead to more tangible results than mere experimentation. I do not by any means say that this cannot also be fruitful. It does indeed lead to certain goals, but a great deal passes us completely by, especially many things we can learn by observing Nature. Although it is not difficult to produce a synthetic preparation composed of iron, sulphur and alkali, it is a good thing to know how all these substances are brought together by Nature herself in a particular plant. Even in the production of synthetic remedies we can learn very much by understanding what is going on in Nature outside.

It would be fascinating to enter into many things in detail, and I think that some of our doctors will have done so in other lectures. A great deal, too, can be found in our literature, and there are many subjects which I hope will soon be dealt with there. I am convinced that as soon as these matters are presented in a clear, concise form and people are not afraid to go straight ahead, they will take this point of view: "Yes, I must above all *heal* if I want to be a doctor, and so I will turn

to what, in the first place, seems rather against the grain. If it really helps, I cannot do otherwise than try to profit by it.”

In this sense I think it would be a good thing if as soon as possible we could produce literature of a kind that would be a bridge between Spiritual Science and modern material science. It would encourage the opinion that these things help and so they cannot after all be such utter nonsense! I am quite sure that when our work is properly in train, the verdict will be that it does indeed help. — And here I will conclude. Try it all out and you will find that it will help. That too, will not be without significance, for many things that are used in orthodox medicine do not help. And between what does and does not help there must play all that we would like to introduce from the side of Spiritual Science.